Open ERP

a modern approach to integrated business management based on a free Open Source software system

Geoffrey S. Gardiner and Fabien Pinckaers

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Open ERP : a modern approach to integrated business management based on a free Open Source software system

by Geoffrey S. Gardiner and Fabien Pinckaers

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Foreword

Foreword

Information Systems have played an increasingly visible role over the past several years in improving the competitiveness of business. More than just tools for handling repetitive tasks, they're used to guide and advance all of a company's' daily activities. Integrated management software is today very often a key source of significant competitive advantage.

The standard response to a need for responsiveness, reliability, and rapidly increasing expectations is to create an organization based on departments with a clear linear structure, integrated around your operating processes. To increase efficiency amongst salespeople, accountants, logistics staff and everyone else you should have a common understanding of your problems.

For this you need a common language for shared references, policies and communication. An ERP (Enterprise Resource Planning) system makes the ideal platform for this common reference point.

Open Source software at the service of management

Risks and integration costs are important barriers to all the advantages you gain from such systems. That's why, today, few small- and medium-sized companies use ERP. In addition, the larger ERP vendors such as SAP, Microsoft and Oracle haven't been able to reconcile the power and comprehensive cover of an ERP system with the simplicity and flexibility wanted by the users. But this is exactly what small and medium enterprises are looking for.

The development processes of open source software, and the new business models adopted by their developers, provide a new way of resolving such problems of cost and quality for this kind of enterprise software.

To make an ERP system fully available to small and medium enterprises, cost reduction is the first priority. Open source software makes it possible to greatly reduce development costs by aggressive reuse of open source software libraries; to eliminate intermediaries (the distributors), with all of their expensive sales overhead; to cut out

selling costs by free publication of the software; and to considerably reduce the marketing overhead.

Since there is open interaction among thousands of contributors and partners working on the same project, the quality of the resulting software benefits greatly from the scrutiny. And you can't be everything at once: accountant, software developer, salesperson, ISO 9001 quality professional, specialist in agricultural products, expert in the customs and habits of pharmaceutical vendors, just as a start.

Faced with these wide-ranging requirements, what could be better than a world network of partners and contributors? Everyone adds their own contribution according to their professional competence. Throughout this book you'll see that the results exceed any reasonable expectations when such work is well organized.

But the real challenge of development is to make this solution simple and flexible, as well as complete. And to reach this level of quality you need a leader and co-ordinator who can organize all of these activities. So the development team of Tiny ERP, today called Open ERP, is responsible for most of the organization, synchronization and coherence of the software.

And Open ERP offers great performance in all these areas!

The Open ERP Solution

Because of its modularity, collaborative developments in Open ERP have been cleanly integrated, enabling any company to choose from a large list of available functions. As with most open source software, accessibility, flexibility, and simplicity are important keywords for development. Experience has shown that there's no need to train users for several months on the system, because they can just download it and use it directly.

So you'll find the modules for all types of needs, allowing your company to build its customized system by simply grouping and configuring the most suitable modules. Hundreds of modules are available.

They range from specific modules like the EDI interface for agricultural products, which has been used to interface with Match and Leclerc stores, up to the generic demonstration automation module for ordering sandwiches, which can take care of the eating preference of your staff.

The results are quite impressive. Tiny ERP, now Open ERP, is management software that is downloaded more than any other in the world, with over 600 downloads per day. It's available today in 18 languages and has a world network of partners and contributors. More than 800 developers participate in the projects on the collaborative development system of Tiny Forge.

To our knowledge, Tiny ERP is the only management system which is routinely used not only by big companies but also by very small companies and independent companies. This diversity is an illustration of the software's flexibility: a rather elegant coordination between people's functional expectations of the software and great simplicity in its use.

And this diversity is also found in the various sectors and trades which use the software, including agricultural products, textiles, public auctions, IT, and trade associations.

Lastly, such software has arisen from the blend of high code quality, well-judged architecture and use of free technologies. In fact, you may be surprised (if you're an IT person) to find that the size of Tiny ERP is less than 4 MB when you've installed the software. We've moved a long way from the days when the only people who could be expected to benefit from ERP were the owners of a widget factory on some remote industrial estate.

Why this book?

Many books set out to tell readers about the management of enterprise, and equally many aim to instruct the reader in the use of a piece of specialized software. We're not aiming to add to those lists because our approach is intended to be different.

Having restructured and reorganized many businesses, we wanted our management experience to generate a work that is both instructive and practical. It was important for us not to write a manual about Open ERP, but instead a work that deals with advanced management techniques realized through these IT tools. You'll see what management practices might be useful, what's possible, and then how you could achieve that in Open ERP.

It's this that we'll consider Open ERP for: not as an end in itself but just the tool you use to put an advanced management system into place.

Who's it for?

Written by two CEOs who have been successful with new technologies, this book is aimed at directors and managers who have an ambition to improve the performance of their whole company's management team. They're likely already to have significant responsibilities and possess the influence to get things done in their company.

It's likely that most readers will come from small- and medium-sized enterprises (up to a few hundred staff), and independent companies, because of the breadth of functions that need to be analyzed and involved in change. The same principles also apply to larger companies, however.

Structure of this book

The first part starts with the installation of Open ERP. If you have already installed Open ERP you can go directly to Chapter 2 to take your first steps on a guided tour. If you're already familiar with Open ERP or Tiny ERP you can use Chapter 3 to find out how to create a new workflow from scratch in an empty database with nothing to distract you. Or you can skip directly to Chapter 4 in Part Two, to start with details of Open ERP's functional modules.

Part Two deals with Supplier and Customer Relationship Management (SRM & CRM). You'll find the elements necessary for managing an efficient sales department there, and automating tasks to monitor performance.

Part Three is devoted to general accounting and its key role in the management of the whole enterprise.

Part Four handles all the functions of enterprise management: human resources for managing projects, through financial analyses supplied by analytic (or cost) accounts. You'll see how using Open ERP can help you to optimize your leadership of an enterprise.

Finally Part Five, structured in two chapters, explains first how to administer and configure Open ERP then provides a methodology for implementing Open ERP in the enterprise.

About the authors Fabien Pinckaers

Fabien Pinckaers was only eighteen years old when he started his first company. Today, over ten years later, he has founded and managed several new technology companies, all based on Free / Open Source software.

He originated Tiny ERP, now Open ERP, and is the director of two companies including Tiny sprl, the editor of Tiny ERP. In three years he has grown the Tiny group from one to sixty-five employees without loans or external fund-raising, and while making a profit.

He has also developed several large scale projects, such as Auction-in-Europe.com, which become the leader in the art market in Belgium, Even today people sell more art works there than on ebay.be.

He is also the founder of the LUG (Linux User Group) of Louvain-la-Neuve, and of several free projects like OpenReport, OpenStuff and Tiny Report. Educated as a civil engineer (polytechnic), he has won several IT prizes in Europe such as Wired and l'Inscene.

A fierce defender of free software in the enterprise, he is in constant demand as a conference speaker and he is the author of numerous articles dealing with free software in the management of the enterprise.

Geoff Gardiner

Geoff has held posts as director of services and of IT systems for international companies and in manufacturing. He was Senior Industrial Research Fellow at Cambridge University's Institute for Manufacturing where he focused on innovation processes.

He founded Seath Solutions Ltd (http://www.seathsolutions.com/) to provide services in the use of Open Source software, particularly Open ERP, for business management.

Author of articles and books focusing on the processes and technology of innovation, Geoff is also an active contributor to the

Open ERP project. He holds an MBA from Cranfield School of Management and an MA in Engineering and Electrical Sciences from Trinity Hall, Cambridge. He is a member of the Institution of Engineering and Technology and of the Society of Authors.

Having observed, suffered, and led process implementation projects in various organizations, he has many thoughts to share on the successful adoption of an effective management automation tool.

Thanks

From Geoff Gardiner

My gratitude goes to my co-author, Fabien Pinckaers, for his vision and tenacity in developing Tiny ERP and Open ERP, and the team at Tiny for its excellent work on this.

Open ERP relies on a philosophy of Open Source and on the technologies that have been developed and tuned over the years by numerous talented people. Their efforts are greatly appreciated.

Thanks also to my family for their encouragement, their tolerance and their constant presence.

From Fabien Pinckaers

I address my thanks to all of the team at Tiny for their hard work in preparing, translating and re-reading the book in its various forms. My particular thanks to Laurence Henrion and my family for supporting me throughout all this effort.

Part I

First steps with Open ERP

Part I

First steps with Open ERP

Open ERP is an impressive software system, being simple to use and yet providing great advantages in helping you manage your company. It's easy to install under Windows and under Linux compared with other enterprise-scale systems, and offers unmatched functionality.

The objective of this first part of the book is to help you to start discovering it in practice.

The first chapter gives detailed guidance for installing it. Next you're taken on a step-by-step guided tour using the information in its demonstration database. Then in Chapter 3 you can try out a real case, from scratch in a new database, by developing a complete business workflow that runs from purchase to sale of goods.

1

Installation and Configuration

1

Installation and Configuration

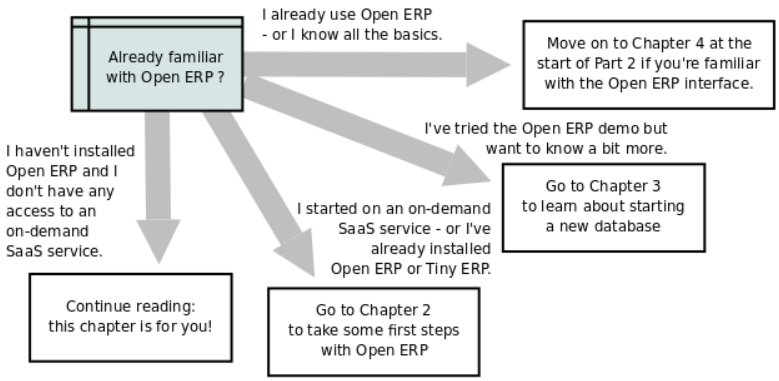
Summary

- The architecture of Open ERP
- Installing the software
- Configuring a database

Keywords

- downloading
- installation
- SaaS
- database server
- application server
- web server
- GTK client
- web client
- backups

Installing Open ERP under Windows or Linux for familiarization use should take you only half an hour or so and needs only a couple of operations. The first operation is installation of the application and database server on a server PC (that's a Windows or Linux or Macintosh computer). You've a choice of approaches for the second operation: either install a web server (most probably on the original server PC) to use with standard web clients that can be found on anybody's PC, or install application clients on each intended user's PC. When you first install Open ERP you'll configure a database containing a little functionality and some demonstration data to test the installation.


Already familiar with Open ERP ?
I already use Open ERP - or I know all the basics.
Move on to Chapter 4 at the start of Part 2 if you're familiar with the Open ERP interface.
I've tried the Open ERP demo but want to know a bit more.
Go to Chapter 3 to learn about starting a new database
I haven't installed Open ERP and I don't have any access to an on-demand SaaS service.
I started on an on-demand SaaS service - or I've already installed Open ERP or Tiny ERP.
Continue reading: this chapter is for you!
Go to Chapter 2 to take some first steps with Open ERP

Your options for reading this section of the book

This chapter focuses on the installation of Open ERP so that you can begin to familiarize yourselves with its use. If you're not a systems administrator, or if you've already installed Open ERP, or if you're planning to use an online SaaS provider, then you can skip this chapter and move straight to Chapter 2. If you've already used Open ERP (or Tiny ERP) a bit then you can move past that to Chapter 3 in this section of the book.

REMINDER Renaming from Tiny ERP to Open ERP

Tiny ERP was renamed to Open ERP early in 2008 so somebody who's already used Tiny ERP should be equally at home with Open ERP. The two names refer to the same software, so there's no functional difference between versions 4.2.X of Open ERP and 4.2.X of Tiny ERP. This book applies to all versions of Tiny ERP and Open ERP from 4.2.0 onwards, with references to specific later versions from time to time.

ADVICE The SaaS, or "on-demand", offer

SaaS (Software as a Service) is delivered by a hosting supplier and paid in the form of a monthly subscription that includes hardware (servers), system maintenance, provision of hosting services, and support.

You can get a month's free trial on http://ondemand.openerp.com, which enables you to get started quickly without incurring costs for integration or for buying computer systems. Many of Tiny's partner companies will access this, and some may offer their own similar service.

This service should be particularly useful to small companies that just want to get going quickly and at low cost. It gives them immediate access to an integrated management system that's been built on the type of enterprise architecture used in banks and other large organizations. Open ERP is that system, and is described in detail throughout this book.

Whether you want to test Open ERP or to put it into full production, you have at least two starting points:

- evaluate it on line at http://openerp.com and ask for an SaaS trial hosted at http://ondemand.openerp.com, or the equivalent service at any of Tiny's partner companies,
- install it on your own computers to test it in your company's systems environment.

There are some differences between installing Open ERP on Windows and on Linux systems, but once installed, it gives the same functions from both so you won't generally be able to tell which type of server you're using.

ALTERNATIVE Linux, Windows, Mac

Although this book deals only with installation on Windows and Linux systems, the same versions are also available for the Macintosh on the official website of Open ERP.

URL Web sites for Open ERP

- Main Site: http://openerp.com
- SaaS or “on-demand” Site: http://ondemand.openerp.com
- Community discussion forum where you can often receive informed assistance: http://openerp.com/forum/

NOTE Current documentation

The procedure for installing Open ERP and its web server are sure to change and improve with each new version, so you should always check each release's documentation – both packaged with the release and on the website – for exact installation procedures.

Once you've completed this installation, you'll create and configure a database to confirm that your Open ERP installation is working.

The architecture of Open ERP

To access Open ERP you can:

- use a web browser pointed at the eTiny web server, or
- use an application client (the GTK client) installed on each computer.

The two methods of access give very similar facilities, and you can use both on the same server at the same time. It's best to use the web browser if the Open ERP server is some distance away (such as on another continent) because it's more tolerant of time delays between the two than the GTK client is. The web client is also easier to maintain, because it's generally already installed on users' computers.

Conversely you'd be better off with the application client (called the GTK client because of the technology it's built with) if you're using a local server (such as in the same building). In this case the GTK client will be more responsive, so more satisfying to use.

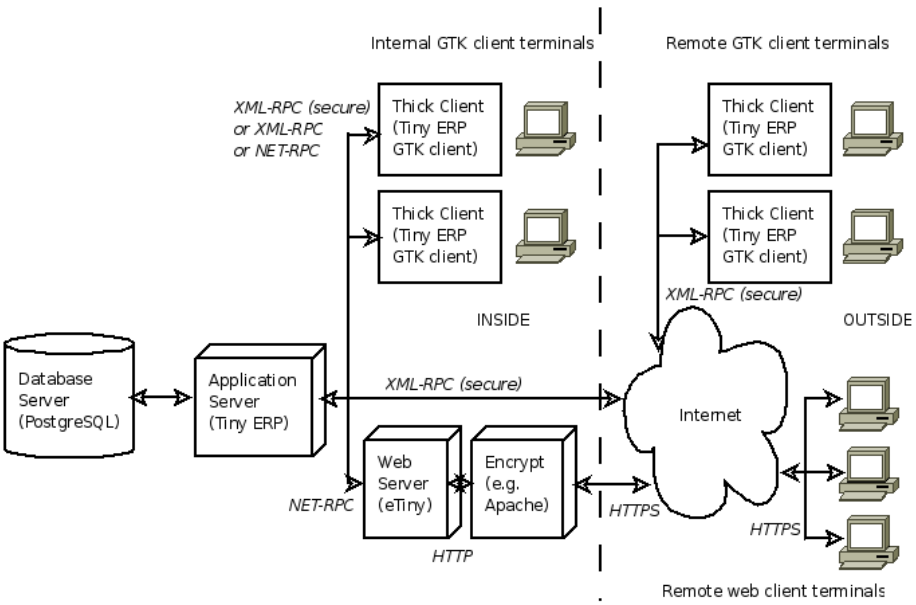
USABILITY Web client and GTK client

The main functional difference between the two Open ERP clients is the presence of the calendar view in the web client, which doesn't exist in the GTK client at present (version 4.2.3). Apart from that you will find that there are small differences in their general usability.

The Tiny company will continue to support two clients for the foreseeable future, so you can use whichever client you prefer.

An Open ERP system is formed by three main components:

- the PostgreSQL database server, which contains all of the databases, each of which contains all data and most elements of the Open ERP system configuration,
- the Open ERP application server, which contains all of the enterprise logic and ensures that Open ERP runs optimally,
- the web server, a separate application called eTiny, which enables you to connect to Open ERP from standard web browsers and is not needed when you



The components of Open ERP

connect using a GTK client.

TERMINOLOGY eTiny – server or client?

The eTiny component can be thought of as a server or a client depending on your viewpoint.

It acts as a web server to an end user connecting from a web browser, but it also acts as a client to the Open ERP application server just as a GTK application client does.

So in this book its context will determine whether eTiny is referred to as a server or a client.

ATTENTION eTiny

At present, the web component is known as “eTiny”. Although it's possible that this application's name will change in the coming months to match the renaming of Tiny ERP to Open ERP, its characteristics will stay the same.

PROGRAM PostgreSQL

PostgreSQL is a relational and object database management system.

It's a free high-performance system that compares with other database management systems such as MySQL and FirebirdSQL (both free), Sybase, DB2 and Microsoft SQL Server (all proprietary). It runs on all types of Operating System, from Unix/Linux to the various releases of Windows, via Mac OS X, Solaris, SunOS and BSD.

These three components can be installed on the same server or can be distributed onto separate computer servers if performance considerations require it.

If you choose to run only with GTK clients you won't need the third component – the eTiny server – at all. In this case Open ERP's GTK client must be installed on the workstation of each Open ERP user in the company.

The installation of Open ERP

Whether you're from a small company investigating how Open ERP works, or on the IT staff of a larger organization and have been asked to assess Open ERP's capabilities, your first requirement is to install it or to find a working installation.

The table below summarizes the various installation methods that will be described in the following sections.

Comparison of the different methods of installation on Windows or Linux.

Method	Average Time	Level of Complexity	Notes
All-in-one Windows Installer	A few minutes	Simple	Very useful for quick evaluations because it installs all of the components pre-configured on one computer (using the GTK client).
Independent installation on Windows	Half an hour	Medium	Enables you to install the components on different computers. Can be put into production use.

Ubuntu Linux packages	A few minutes	Simple	Simple and quick but the Ubuntu packages aren't always up to date.
From source, for all Linux systems	More than half an hour	Medium to slightly difficult	This is the method recommended for production environments because it's easy to keep it up to date.

Auto-installation on Windows

Each time a new release of Open ERP is made, Tiny supplies a complete Windows auto-installer for it. This contains all of the components you need – the PostgreSQL database server, the Open ERP application server and the GTK application client.

This auto-installer enables you to install the whole system in just a few mouse-clicks. The initial configuration is set up during installation, making it possible to start using it very quickly as long as you don't want to change the underlying code. It's aimed at the installation of everything on a single PC, but you can later connect GTK clients from other PCs, Macs and Linux boxes to it as well.

The first step is to download the Open ERP installer. At this stage you must choose which version to install – the stable version or the development version. If you're planning to put it straight into production you're strongly advised to choose the stable version.

> **ATTENTION Stable versions and development versions**
>
> Open ERP development proceeds on two parallel tracks: stable versions and development versions.
>
> New functionality is integrated into the development branch. This branch is more advanced than the stable branch, but it can contain undiscovered and unfixed faults. A new development release is made every month or so, and Tiny have made the code repository available so you can download the very latest revisions if you want.
>
> The stable branch is designed for production environments. Releases of new functionality there are made only about once a year after a long period of testing and validation. Only fault fixes are released through the year on the stable branch.

To download the version of Open ERP for Windows, follow these steps:

1. Navigate to the site http://openerp.com.
2. Click ***Product*** on the menu at the left, then ***Download***.
3. Click in the downloads page – either on ***development*** or ***stable***, depending which you want to install.
4. Click ***win32*** to open the download page for Windows files.
5. Download the file for the demonstration version – for example `openerp-allinone-setup-4.2.X.exe`.
6. Save the file on your PC.

To install Open ERP and its database you must be signed in as an Administrator on your PC. Double-click the installer file and accept the default parameters on each dialog box this way:

1. Run the installer.
2. Start the installation procedure by clicking ***Next*** in the installation window.
3. Accept the GPL license by clicking ***I Agree***.
4. Install Open ERP in the location in `Program Files` that is suggested by the installer.
5. Wait two or three minutes for the installation to complete, then click ***Next***.
6. Close the installation window using the middle button, ***Finish***.

The Open ERP client can then be opened, ready to use the Open ERP system. The next step consists of configuring the database, and is covered in the final section of this chapter, ***Creating the database***.

Independent installation on Windows

System administrators can have very good reasons for wanting to install the various components of a Windows installation separately. For example, your company may not support the version of PostgreSQL or Python that's installed automatically, or you may already have PostgreSQL installed on the server you're using, or you may want to install the database server, application server and web server on separate hardware units.

For this situation you can get separate installers for the Open ERP server and client from the same location as the all-in-one autoinstaller. You'll also have to download and install a suitable version of PostgreSQL independently.

You must install PostgreSQL before the Open ERP server, and you must also configure it with a user and password so that the Open ERP server can connect to it. Tiny's web-based documentation gives full and current details.

If you had previously tried to install the all-in-one version of Open ERP, you'd best uninstall that in case its embedded PostgreSQL installation interferes with your stand-alone installation.

Connecting users on other PCs to the Open ERP server

To connect other computers to the Open ERP server you must configure the server so that it's visible to the other PCs, and install a GTK client on each of the those PCs:

1. Make your Open ERP server visible to other PCs by opening the Windows Firewall in the Control Panel, then asking the firewall to make an exception of the Open ERP server. In the ***Exceptions*** tab of Windows Firewall click on ***Add a program...*** and choose ***Open ERP Server*** in the list provided. This step enables other computers to see the Open ERP application on this server.
2. Install the Open ERP client (`openerp-client-4.X.exe`), which you can download in the same way as you downloaded the other Open ERP software, onto the other PCs.

ATTENTION Version matching

You must make sure that the version of the client matches that of the server. The version number is given as part of the name of the downloaded file. Although it's possible that some different revisions of client and server will function together, there's no certainty about that.

To run the client installer on every other PC you'll need to have administrator rights there. The installation is automated, so you just need to guide it through its different installation steps.

To test your installation, start by connecting through the Open ERP client on the server machine while you're still logged in as administrator.

NOTE Why signed in as a PC Administrator?

You'd not usually be signed on as a PC administrator when you're just running the Open ERP client, but if there have been problems in the installation it's easier to remain as an administrator after the installation so that you can make any necessary fixes than to switch user as you alternate between roles as a tester and a software installer.

Dialog box on connecting a GTK client to a new Open ERP server

Start the GTK client on the server through the Windows Start menu there. The main client window appears, identifying the server you're connected to (which is `localhost` – your own server PC – by default). If the message ***No database found, you must create one*** appears then you've successfully connected to an Open ERP server containing, as yet, no databases.

NOTE Connection modes

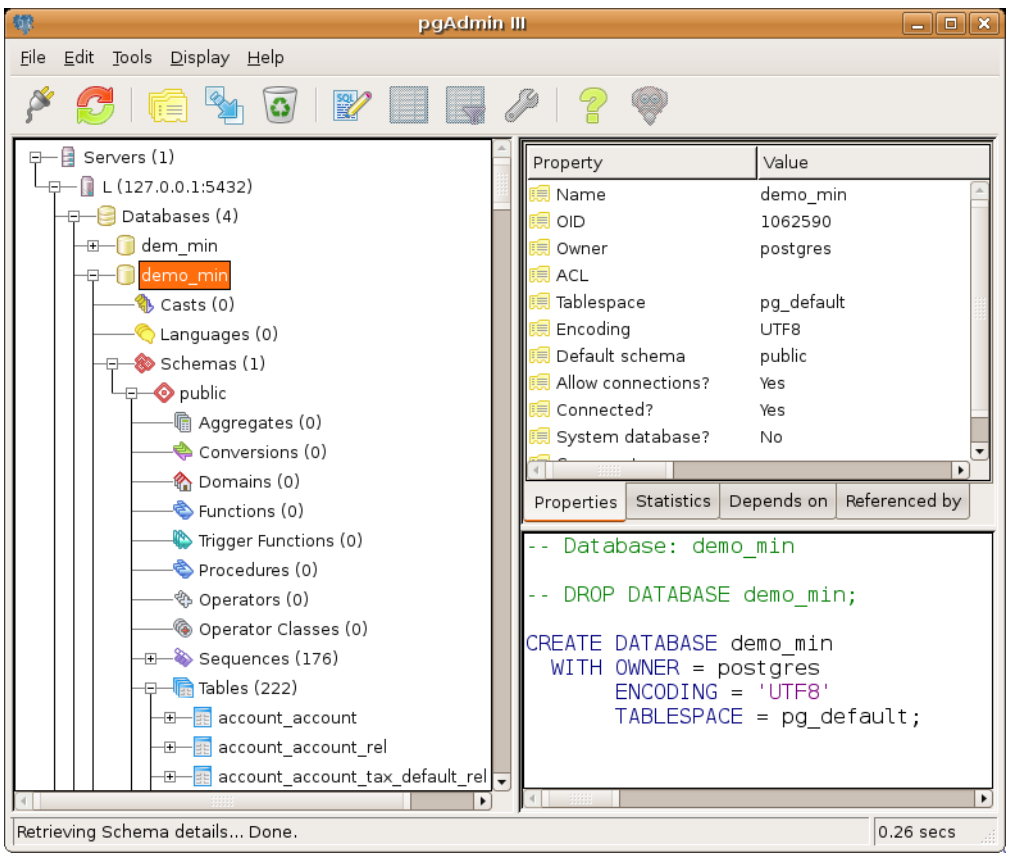
In its default configuration, the Open ERP client connects to port 8069 on the server using the XML-RPC protocol. You can change this and connect to port 8070 using the NET-RPC protocol instead.

NET-RPC is quite a bit quicker, although you may not notice that on the GTK client in normal use.

Resolving errors with a Windows installation

If your system doesn't work after installing your Windows system you'll find some ideas for resolving this below:

1 Does your PostgreSQL server work?
Signed in as administrator, select ***Stop Service*** from the menu ***Start > Programs > PostgreSQL***. If, after a couple of seconds, you can read ***The service PostgreSQL4OpenERP has stopped*** then you can be reasonably sure that the database server was working. Restart PostgreSQL then, still in the PostgreSQL menu, start the pgAdmin III application which you can use to explore the database. Double-click on the `PostgreSQL4OpenERP` connection as in the figure below. If the database server is working you'll be able to see some information about the empty database. If it's not then an error message will appear.

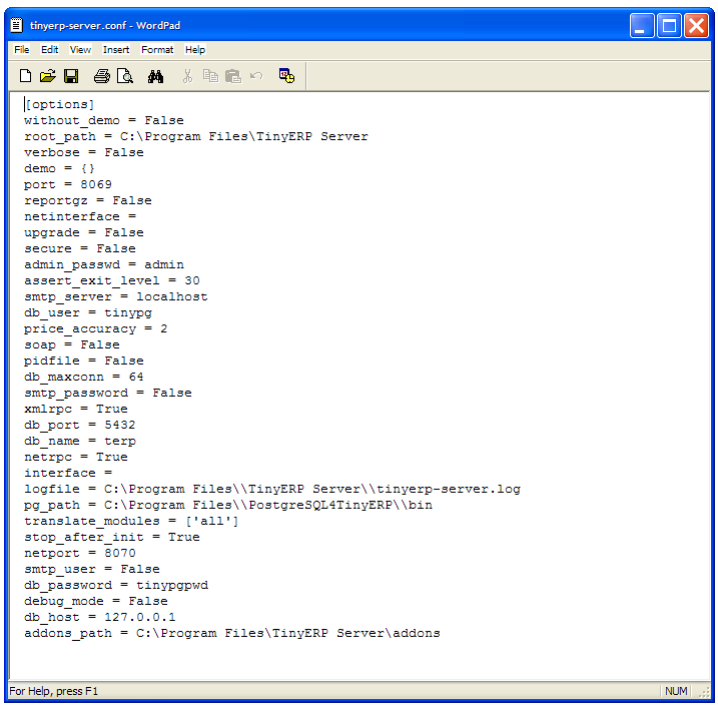


Using pgAdmin III to verify that PostgreSQL is working

2 Is the Open ERP application working?
Signed in to the server as an administrator, stop and restart the service using ***Stop Service*** and ***Start Service*** from the menu ***Start > Programs > OpenERP Server***. Open the log file `openerp-server.log` in `C:\Program Files\OpenERP Server`. At the end of the file you should see the line ***The server is running, waiting for connections...***

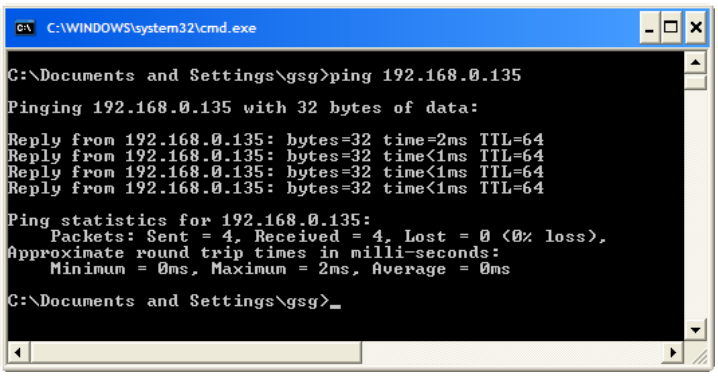
> **NOTE Automatically starting the server**
>
> You might find that the server has not started automatically after installation. If this is the case you should restart your computer to ensure that the service is properly registered. You'll only have to do this once. Once registered the server should restart correctly every time.

3 Is the Open ERP application server configured correctly?
Signed in to the server as Administrator, open the file `openerp-server.conf` in `C:\Program Files\OpenERP Server` and check its content. This file is generated during installation with information derived from the database. If you see something strange it's best to entirely reinstall the server from the demonstration installer rather than try to work out what's happening.



Checking the configuration file for the Open ERP server

4 Are your client programs correctly installed?
If your Open ERP GTK clients haven't started then the swiftest approach is to reinstall them.


C:\WINDOWS\system32\cmd.exe
C:\Documents and Settings\gsg>ping 192.168.0.135
Pinging 192.168.0.135 with 32 bytes of data:
Reply from 192.168.0.135: bytes=32 time=2ms TTL=64
Reply from 192.168.0.135: bytes=32 time<1ms TTL=64
Reply from 192.168.0.135: bytes=32 time<1ms TTL=64
Reply from 192.168.0.135: bytes=32 time<1ms TTL=64
Ping statistics for 192.168.0.135:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 2ms, Average = 0ms
C:\Documents and Settings\gsg>

Checking that the server is visible over the network

5 Can the client computers see the server computer at all?
Check this by opening a command prompt window (enter `cmd` in the window ***Start > Run...***) and enter `ping <address of server>` there (where `<address of server>` represents the IP address of the server). The server should respond as shown in the following figure.

6 Have you changed any of the server's parameters?
At this point in the installation the port number of the server must be 8069 using the protocol XML-RPC.

7 Is there anything in the server's history that can help you identify the problem?
Open the file `openerp-server.log` in `C:\Program Files\OpenERP Server` and scan through the history for ideas. If something looks strange there, contributors to the Open ERP forums can often help identify the reason.

Installation on Linux (Ubuntu)

This section guides you through installing the Open ERP server and client on Ubuntu, one of the most popular Linux distributions. It assumes that you're using a recent release of Desktop Ubuntu with its graphical user interface on a desktop or laptop PC.

> **ALTERNATIVE Other Linux distributions**
>
> Installation on other distributions of Linux is fairly similar to installation on Ubuntu. Read this section of the book so that you understand the principles, then use the online documentation and the forums for your specific needs on another distribution.

For information about installation on other distributions, visit the documentation section by following ***Product > Documentation*** on http://openerp.com. Detailed instructions are given there for different distributions and releases, and you should also check if there are more up to date instructions for the Ubuntu as well.

Installation of Open ERP from packages

At the time of writing this book, Ubuntu hadn't yet published packages for Open ERP, so this section describes the installation of version 4.2 of Tiny ERP. This is very similar to Open ERP and so can be used to test the software.

Here's a summary of the procedure:

1 Start Synaptic Package Manager, and enter your root password as required.
2 Check that the repositories `main`, `universe` and `restricted` are enabled.
3 Search for a recent version of PostgreSQL, for example `postgresql-8.3` (postgresql-8.3 didn't work fully with Tiny ERP 4.2.2, although it does with 4.2.3.3) then select it for installation along with its dependencies.
4 Search for `tinyerp` then select `tinyerp-client` and `tinyerp-server` for installation along with their dependencies. Click ***Update Now*** to install it all.
5 Close Synaptic Package Manager.

Installing PostgreSQL results in a database server that runs and restarts automatically when the PC is turned on. If all goes well with the tinyerp-server package then tinyerp-server will also install, and restart automatically when the PC is switched on.

Start the Tiny ERP GTK client by clicking its icon in the ***Applications*** menu, or by opening a terminal window and typing `tinyerp-client`. The Tiny ERP login dialog box should open and show the message ***No database found you must create one!***

Although this installation method is simple, and therefore attractive, it's better to install Open ERP using a version downloaded from http://openerp.com. The downloaded revision is likely to be far more up to date than that available from a Linux distribution.

> **ATTENTION Package versions**
>
> Maintaining packages is a process of development, testing and publication that takes time. The releases in Open ERP (or Tiny ERP) packages are therefore not always the latest available. Check the version number from the information on the website before installing a package. If only the third figure differs (for example 4.2.3 instead of 4.2.4) then you may choose to install it because the differences may be minor – fault fixes rather than functionality changes between the package and the latest version.

Manual installation of the Open ERP server

In this section you'll see how to install Open ERP by downloading it from the site http://openerp.com, and how to install the libraries and packages that Open ERP depends on, onto a desktop version of Ubuntu. Here's a summary of the procedure:

1 Navigate to the page http://openerp.com with your web browser.
2 Click ***Product*** on the left menu, then ***Download***.
3 Click ***development*** or ***stable*** in the list of downloads.
4 Click ***source*** to open the page of file downloads.
5 Download the client and server files into your home directory (or some other location if you've defined a different download area).

To download the PostgreSQL database and all of the other dependencies for Open ERP from packages:

1 Start Synaptic Package Manager, and enter the root password as required.

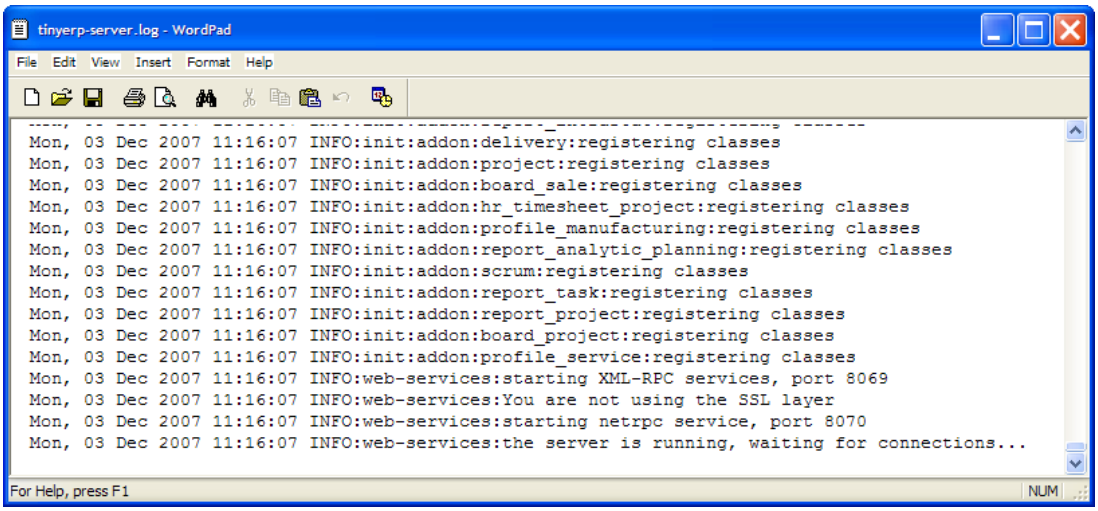
2 Check that the repositories `main`, `universe` and `restricted` are enabled.
3 Search for a recent version of PostgreSQL (such as `postgresql-8.2`) then select it for installation along with its dependencies.
4 Select `python-xml`, `python-libxml2`, `python-libxslt1`, `python-psycopg` (not `psycopg2`) and its dependencies, `python-tz`, `python-imaging`, `python-pyparsing`, `python-reportlab`, `graphviz` and its dependences, `python-matplotlib` and its dependences (some of which might already be installed), then click ***Update Now*** to install them.

> **LANGUAGE Python**
>
> Python is the programming language that's been used to develop Tiny ERP and Open ERP. It's a dynamic, non-typed language that is at the same time object-oriented, procedural and functional. It comes with numerous libraries that provide interfaces to other languages and has the great advantage that it can be learnt in only a few days. It's the language of choice for large parts of NASA, Google and many other enterprises.
>
> For more information on Python, explore http://www.python.org.

Once all these dependencies and the database are installed, install the server itself by following the steps below:

1 Open a terminal window and change directory to wherever you downloaded the server source files.
2 Decompress the file using the command `tar xzf openerp-server.4.X.tar.gz`.
3 Change directory: `cd openerp-server`.
4 Build the Open ERP server: `python setup.py build`.
5 Install the Open ERP server: `sudo python setup.py install`.

Open a terminal window to start the server with the command `sudo su postgres -c openerp-server`, which should result in a series of log messages as the server starts up. If the server is correctly installed, the message ***waiting for connections...*** should show within 30 seconds or so, which indicates that the server is waiting for a client to connect to it.


tinyerp-server.log - WordPad
File Edit View Insert Format Help
Mon, 03 Dec 2007 11:16:07 INFO:init:addon:delivery:registering classes
Mon, 03 Dec 2007 11:16:07 INFO:init:addon:project:registering classes
Mon, 03 Dec 2007 11:16:07 INFO:init:addon:board_sale:registering classes
Mon, 03 Dec 2007 11:16:07 INFO:init:addon:hr_timesheet_project:registering classes
Mon, 03 Dec 2007 11:16:07 INFO:init:addon:profile_manufacturing:registering classes
Mon, 03 Dec 2007 11:16:07 INFO:init:addon:report_analytic_planning:registering classes
Mon, 03 Dec 2007 11:16:07 INFO:init:addon:scrum:registering classes
Mon, 03 Dec 2007 11:16:07 INFO:init:addon:report_task:registering classes
Mon, 03 Dec 2007 11:16:07 INFO:init:addon:report_project:registering classes
Mon, 03 Dec 2007 11:16:07 INFO:init:addon:board_project:registering classes
Mon, 03 Dec 2007 11:16:07 INFO:init:addon:profile_service:registering classes
Mon, 03 Dec 2007 11:16:07 INFO:web-services:starting XML-RPC services, port 8069
Mon, 03 Dec 2007 11:16:07 INFO:web-services:You are not using the SSL layer
Mon, 03 Dec 2007 11:16:07 INFO:web-services:starting netrpc service, port 8070
Mon, 03 Dec 2007 11:16:07 INFO:web-services:the server is running, waiting for connections...
For Help, press F1
NUM

Logging information from the Open ERP server as it starts up

Manual installation of Open ERP GTK clients

To install an Open ERP GTK client, follow the steps below:

1 Install the `xpdf` package using Ubuntu's Synaptic Package Manager.
2 Open a terminal and change directory to wherever you downloaded the client file.
3 Decompress the file using the command: `tar xzf openerp-client.4.X.tar.gz`.
4 Change directory: `cd openerp-client`.
5 Build the Open ERP client: `python setup.py build`.
6 Install the Open ERP client: `sudo python setup.py install`.

> **Note Survey: Don't Cancel!**
>
> When you start the GTK client for the first time, a dialog box appears asking for various details that are intended to help the Tiny company assess the prospective user base for its software.
>
> If you click the ***Cancel*** button, the window goes away – but Open ERP will ask the same questions again next time you start the client. It's best to click ***OK***, even if you choose to enter no data, to prevent that window reappearing next time.

Startup screen for a GTK client connected to an Open ERP server

Open a terminal window to start the client using the command openerp-client. When you start the client on the same Linux PC as the server you'll find that the default connection parameters will just work without needing any change. The message ***No database found, you must create one!*** shows you that the connection to the server has been successful and you need to create a database on the server.

If you don't need to connect other clients or install the eTiny web server, you can now go directly to the final section in this chapter, ***Creating the database***

You can connect other GTK clients over the network to your Linux server. Before you leave your server, make sure you know its network address – either by its name (such as `mycomputer.mycompany.net`) or its IP address (such as `192.168.0.123`).

> **NOTE Different networks**
>
> Communications between an Open ERP client and server are based on standard protocols. You can connect Windows clients to a Linux server, or vice versa, without problems. It's the same for Mac versions of Open ERP – you can connect Windows and Linux clients and servers to them.

To install an Open ERP client on a computer under Linux, repeat the procedure shown earlier in this section. You can connect different clients to the Open ERP server by modifying the connection parameters on each client. To do that, click the Change button on the connection dialog and set the following field as needed:

- ***Server***: `name` or `IP address` of the server over the network,
- ***Port***: the port, whose default is `8069`,

Dialog box for defining connection parameters to the server

- ***Connection protocol***: `XML-RPC`.

It's possible to connect the server to the client using a secure protocol to prevent other network users from listening in, but the installation described here is for direct unencrypted connection.

If your Linux server is protected by a firewall you'll have to provide access to port `8069` for users on other computers with Open ERP GTK clients.

Installation of an eTiny web server

Just as you installed a GTK client on a Linux server, you can also install the eTiny web server. It's possible to install eTiny from sources after installing its dependencies from packages as you did with the Open ERP server, but Tiny have provided a much simpler way to do this for eTiny – using a system known as ez_setup.

Before proceeding, confirm that your Open ERP installation is functioning correctly with a GTK client. If it's not you'll need to go back now and fix it, because you need to be able to use it fully for the next stages.

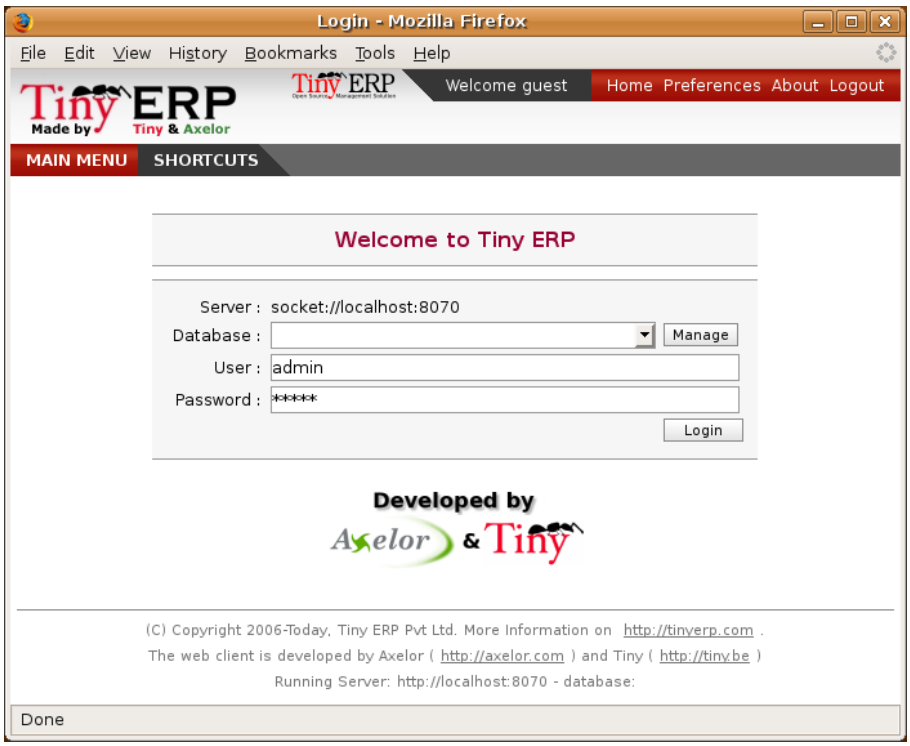
To install eTiny:

1 From Synaptic Package Manager install `build-essential,` and then check that `python-matplotlib` and `python-imaging` are installed (which they should have been during the installation of the server).
2 Now download the web framework directly to your download directory by entering:
`wget http://www.turbogears.org/download/tgsetup.py`.
3 Run the installer using: `python tgsetup.py`.
4 Finally, install eTiny by entering the command: `sudo easy_install eTiny.`

> **Tool Ez**
>
> Ez is the packaging system used by Python. It enables the installation of programs as required just like the packages used by a Linux distribution. The software is downloaded across the network and installed on your computer by ez_install.
>
> ez_setup is a small program that installs ez_install automatically.

The eTiny web server connects to the Open ERP server in the same way as an Open ERP client using the NET-RPC protocol. Its default configuration corresponds to that of the Open ERP server you've just installed, so should connect directly at startup.

1 At the same console as you've just been using, go to the eTiny directory by typing `cd etiny/trunk`..
2 At a terminal window type `python start-openerp.py` to start the eTiny server.



Web browser Welcome screen from Open ERP

You can verify the installation by opening a web browser on the server and navigating to http://localhost:8080 to connect to eTiny as shown in the figure below. You can also test this from another computer connected to the same network if you know the name or IP address of the server over the network – your browser should be set to http://<server_address>:8080 for this.

Verifying your Linux installation

You've used default parameters so far during the installation of the various components. If you've had problems, or you just want to set this up differently, the following points provide some indicators about how you can configure your installation.

Tools psql and pgAdmin

psql is a simple client, executed from the command line, that's delivered with PostgreSQL. It enables you to execute SQL commands on your Open ERP database.

If you prefer a graphical utility to manipulate your database directly you can install pgAdmin III (it is commonly installed automatically with PostgreSQL on a windowing system, but can also be found at http://www.pgadmin.org/).

1 The PostgreSQL database starts automatically and listens locally on port 5432 as standard: check this by entering `sudo netstat -anpt` at a terminal to see if port 5432 is visible there.
2 The database system has a default role of `postgres`, accessible by running under the Linux postgres user: check this by entering `sudo su postgres -c psql` at a terminal to see the psql startup message – then type `\q` to quit the program.
3 Start the Open ERP server from the postgres user (which enables it to access the PostgreSQL database) by typing `sudo su postgres -c tinyerp-server.`
4 If you try to start the Open ERP server from a terminal but get the message ***socket.error: (98, 'Address already in use')*** then you might be trying to start Open ERP while an instance of Open ERP is already running and using the sockets that you've defined (by default 8069 and 8070). If that's a surprise to you then you may be coming up against a previous installation of Open ERP or Tiny ERP, or something else using one or both of those ports. Type `sudo netstat -anpt` to discover what is running there, and record the PID. You can check that the PID corresponds to a program you can dispense with by typing `ps aux | grep <PID>`, and you can then stop the program from running by typing `sudo kill <PID>`. You need additional measures to stop it from restarting when you restart the server.
5 The Open ERP server has a large number of configuration options. You can see what they are by starting the server with the argument `–help`. By default the server configuration is stored in the file `.terp_serverrc` in the user's home directory (and for the postgres user that directory is `/var/lib/postgresql`).
6 You can delete the configuration file to be quite sure that the Open ERP server is starting with just the default options. It is quite common for an upgraded system to behave badly because a new version server cannot work with options from a previous version. When the server starts without a configuration file it will write a new one once there is something non-default to write to it – it will operate using defaults until then.
7 To verify that the system works, without becoming entangled in firewall problems, you can start the Open ERP client from a second terminal window on the server computer (which doesn't pass through the firewall). Connect using the XML-RPC protocol on port 8069 or NET-RPC on port 8070. The server can use both ports simultaneously. The window displays the log file when the client is started this way.
8 The client configuration is stored in the file `.terprc` in the user's home directory. Since a GTK client can be started by any user, each user would have their setup defined in a configuration file in their own home directory.
9 You can delete the configuration file to be quite sure that the Open ERP client is starting with just the default options. When the client starts without a configuration file it will write a new one for itself.
10 The eTiny web server uses the NET-RPC protocol. If a GTK client works but eTiny doesn't then the problem is either with the NET-RPC port or with eTiny itself, and not with the Open ERP server.

A STEP FURTHER One server for several companies

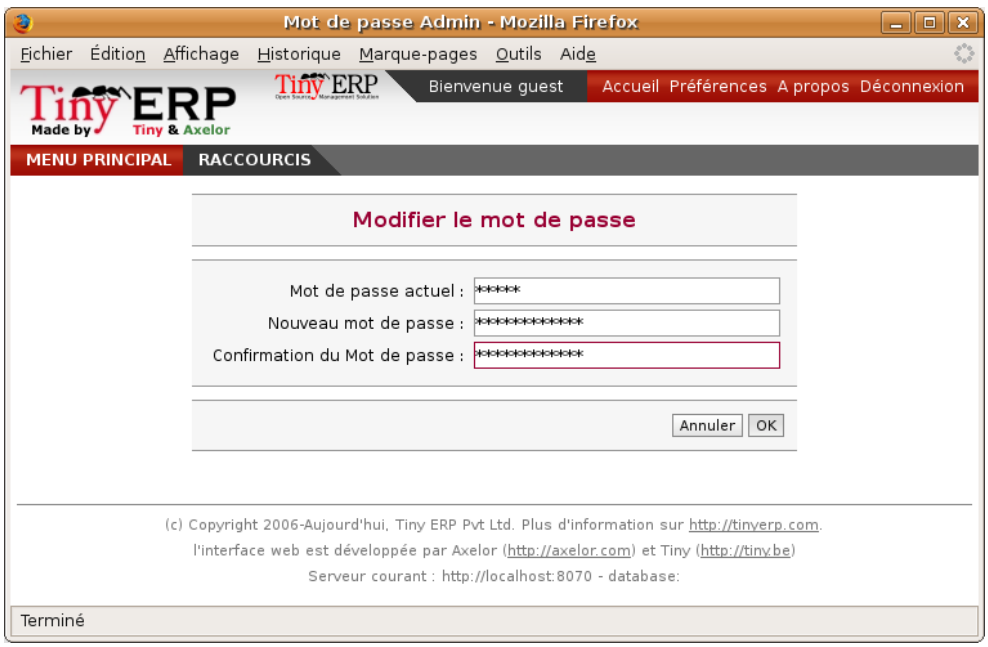
You can start several Open ERP application servers on one physical computer server by using different ports. If you have defined multiple database roles in PostgreSQL, each connected through an

Open ERP instance to a different port, you can simultaneously serve many companies from one physical server at one time.

Creating the database

Before walking through an Open ERP business process step by step in the next chapter you'll create a database to check that the installation is working correctly:

- `openerp_ch01`: a minimal database containing demonstration data.


Mot de passe Admin - Mozilla Firefox
Fichier Édition Affichage Historique Marque-pages Outils Aide
Tiny ERP
Made by Tiny & Axelor
Tiny ERP
Bienvenue guest
Accueil Préférences A propos Déconnexion
MENU PRINCIPAL
RACCOURCIS
Modifier le mot de passe
Mot de passe actuel :
Nouveau mot de passe :
Confirmation du Mot de passe :
Annuler
OK
(c) Copyright 2006-Aujourd'hui, Tiny ERP Pvt Ltd. Plus d'information sur http://tinyerp.com.
l'interface web est développée par Axelor (http://axelor.com) et Tiny (http://tiny.be)
Serveur courant : http://localhost:8070 - database:
Terminé

Changing the super-administrator password through the web client

To create new databases you must know the super-administrator password which defaults to admin on a new installation.

The super-administrator password

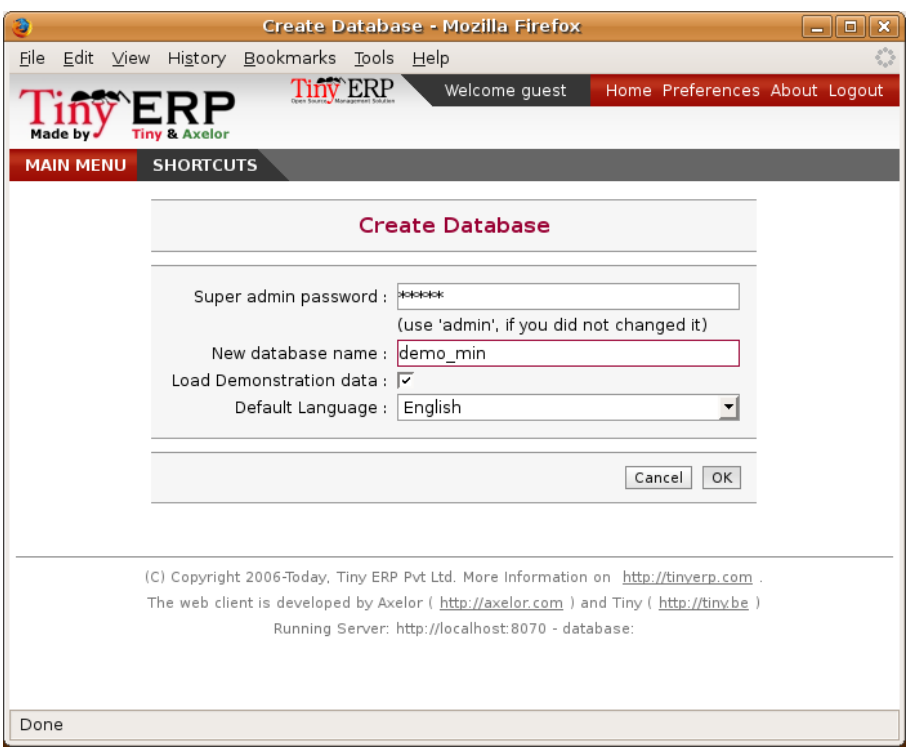
Anyone who knows the super-administrator password has complete access to the data on the server – able to read, change and delete any of the data in any of the databases there.

After first installation, the password is `admin`. You can change it through the GTK client from the menu ***File > Database ... > Administrator Password***, or through the web client by logging out (click the ***Logout*** link), clicking ***Manage*** on the login screen, and then clicking the ***Password*** button on the Management screen. This password is stored in a configuration file outside the database, so your server systems administrator can change it if you forget it.

Creating a new database through the GTK client

- If you're using the GTK client, choose ***Files > Database > New database*** in the menu at the top left. Enter the super-administrator password, then the name of the new database you're creating.

- If you're using the web client, click ***Manage*** on the login screen, then ***Create*** on the database management page. Enter the super-administrator password, then the name of the new database you're creating.


Create Database - Mozilla Firefox
File Edit View History Bookmarks Tools Help
Tiny ERP
Made by Tiny & Axelor
Welcome guest
Home Preferences About Logout
MAIN MENU
SHORTCUTS
Create Database
Super admin password :
*****
(use 'admin', if you did not changed it)
New database name :
demo_min
Load Demonstration data :
Default Language :
English
Cancel
OK
(C) Copyright 2006-Today, Tiny ERP Pvt Ltd. More Information on http://tinyerp.com .
The web client is developed by Axelor (http://axelor.com) and Tiny (http://tiny.be)
Running Server: http://localhost:8070 - database:
Done

Creating a new database through the web client

Database openerp_ch01

To create the `openerp_ch01` database, enter the database name `openerp_ch01` into the ***New database*** field. Make sure that the ***Load Demonstration Data*** checkbox is checked. Each Open ERP module will now be loaded with previously-constructed demonstration data as it's installed. Choose the default language for this database (English for many readers of this book), then click ***Ok***.

Wait for the message showing that the database has been successfully created, along with the user accounts and passwords (`admin/admin` and `demo/demo`). Now you've created this seed database you can extend it without knowing the super administrator password.

> **Technique User Access**
>
> The combination of username/password is specific to a single database. If you have administrative rights to a database you can modify the predefined users.
>
> Alternatively you can install the users_ldap module, which manages the authentication of users in LDAP (the Lightweight Directory Access Protocol, a standard system), and connect it to several Open ERP databases. Using this, many databases can share the same user account details.

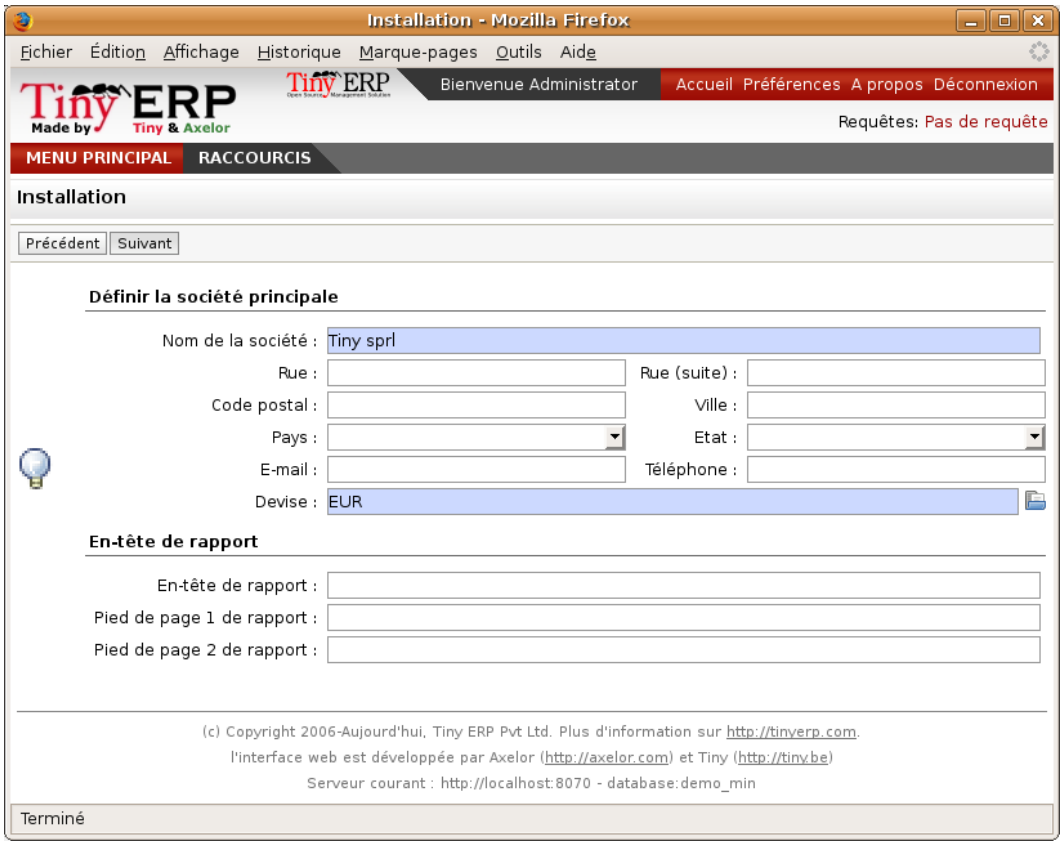
Failure to create a database

How do you know if you've successfully created your new database? You're told if the database creation has been unsuccessful. If you have entered a database name using prohibited characters (or no name, or too short a name) you will be alerted by the dialog box ***Bad database name!*** explaining how to correct the error. If you've entered the wrong super-administrator password or a name already in use (some names can be taken without your knowledge), you'll be alerted by the dialog box ***Error during database creation!***

Connect to the database `openerp_ch01` that you just created, using the default administrator account.

If this is the first time you've connected to this database you'll be asked a series of questions to define the database parameters:

1. ***Select a profile***: select `Minimal Profile` and click ***Next***.
2. ***Company Details***: replace the proposed default of `Tiny sprl` by your own company name, complete as much of your address as you like, and add some lines about your company, such as a slogan and any statutory requirements, to the header and footer fields. Click ***Next***.
3. ***Summary***: check the information and go back to make any modifications you need before installation. Then click ***Install***.



Defining your company during initial database configuration

4 ***Installation Completed***: click ***Ok***.

Once configuration is complete you're connected to your Open ERP system. Its functionality is very limited because you've selected a minimal installation, but this is sufficient to demonstrate that your installation is working.

Managing databases

As a super-administrator you've not only got rights to create new databases, but also to:

- delete databases,
- backup databases,
- restore databases.

All of these operations can be carried out from the menu ***File > Databases... > Backup databases*** in the GTK client, or from ***Manage...*** in the web client's Login screen.

NOTE Duplicating a database.

To duplicate a database you can:

1 make a backup file on your PC from this database.

2 restore this database from the backup file on your PC, giving it a new name as you do so.

This can be a useful way of making a test database from a production database. You can try out the operation of a new configuration, new modules, or just the import of new data.

Future versions of Open ERP may only give you access to some of these database functions in a special development mode, so that your security is enhanced in normal production use.

You are now ready to use databases from your installation to familiarize yourself with the administration and use of Open ERP.

New Open ERP functionality

The database you've created and managed so far is based on the core Open ERP functionality that you installed. The core system is installed in the file system of your Open ERP application server, but only installed into an Open ERP database as you require it, as is described in the next chapter.

What if want to update what's there, or extend what's there with additional modules?

- To update what you have, you'd install a new instance of Open ERP using the same techniques as described earlier in this chapter.
- To extend what you have, you'd install new modules in the addons directory of your current Open ERP installation. There are several ways of doing that.

In both cases you'll need briefly to be a `root` user or `Administrator` of your Open ERP application server.

Extending Open ERP

To extend Open ERP you'll need to copy modules into the `addons` directory. That's is in your server's `tinyerp-server` directory (which differs between Windows, Mac and some of the various Linux distributions and not available at all in the Windows all-in-one installer).

If you look there you'll see existing modules such as `product` and `purchase`. A module can be provided in the form of files within a directory or a a zip-format file containing that same directory structure.

You can add modules in two main ways – through the server, or through the client.

To add new modules through the server is a conventional systems administration task. As `root` user or other suitable user, you'd put the module in the `addons` directory and change its permissions to match those of the other modules.

To add new modules through the client you must first change the permissions of the `addons` directory of the server, so that it is writable by the server. That will enable you to

install Open ERP modules using the Open ERP client (a task ultimately carried out on the application server by the server software).

> **Note Changing permissions**
>
> A very simple way of changing permissions on the Linux system you're using to develop an Open ERP application is to execute the command `sudo chmod 777 <path_to_addons>` (where `<path_to_addons>` is the full path to the addons directory, a location like /usr/lib/python2.5/site-packages/openerp-server/addons).

Any user of Open ERP who has access to the relevant administration menus can then upload any new functionality, so you'd probably disable this capability for production use. You'll see examples of this uploading as you make your way through this book.

2

Guided Tour

2

Guided Tour

Summary

- The user interface
- Installing functional modules
- Familiarization with the system using the demonstration data

Keywords

- modules
- functions
- configuration
- familiarization
- interface
- business process

Starting to discover Open ERP, using demonstration data supplied with the system to familiarize yourself with the user interface. This guided tour provides you with an introduction to many of the available system features.

You'd be forgiven a flicker of apprehension when you first sit at your computer to connect to Open ERP, since ERP systems are renowned for their complexity and for the time it takes to learn how to use them. These are, after all, Enterprise Resource Planning systems, capable of managing most elements of global enterprises, so they should be complicated, shouldn't they? But even if this is often the case for proprietary software, Open ERP is a bit of an exception in the class of management software.

Despite its comprehensiveness, Open ERP's interface and workflow management facilities are quite simple and intuitive to use. For this reason Open ERP is one of the few software packages with reference customers in both very small businesses (typically requiring simplicity) and large accounts (typically requiring wide functional coverage).

A two-phase approach provides a good guide for your first steps with Open ERP:

1 Using a database containing demonstration data to get an overview of Open ERP's functionality (described in this chapter),
2 Setting up a clean database to configure and populate a limited system for yourself (described in the next chapter).

To read this chapter effectively, make sure that you have access to an Open ERP server. The description in this chapter assumes that you're using the Open ERP web client unless it states otherwise. The general functionality differs little from one client to the other.

Database creation

Use the technique outlined in Chapter 1 to create a new database, `openerp_ch02`. This database will contain the demonstration data provided with Open ERP and a large proportion of the core Open ERP functionality. You'll need to know your super administrator password for this – or you'll have to find somebody who does have it to create this seed database.

Start the database creation process from the ***Database Administration*** page by clicking ***Create*** and then completing the following fields on the ***Create Database*** form:

- ***Super administrator password***, by default it's `admin`, if you or your system administrator haven't changed it.
- ***New database name***: `openerp_ch02`.
- ***Load Demonstration Data*** checkbox: `checked`.
- ***Default Language***: `English`.

To connect to Open ERP

Connect to the new `openerp_ch02` database as user `admin` with its default password `admin` (you might have to wait a couple of seconds before the system will allow you to connect if you've only just created it). Since this is the first time you've connected to it you'll have to go through the Setup wizard in steps:

1 ***Select a profile***: select ***Profile*** `Minimal Profile`, since you'll be adding more modules in just a moment.

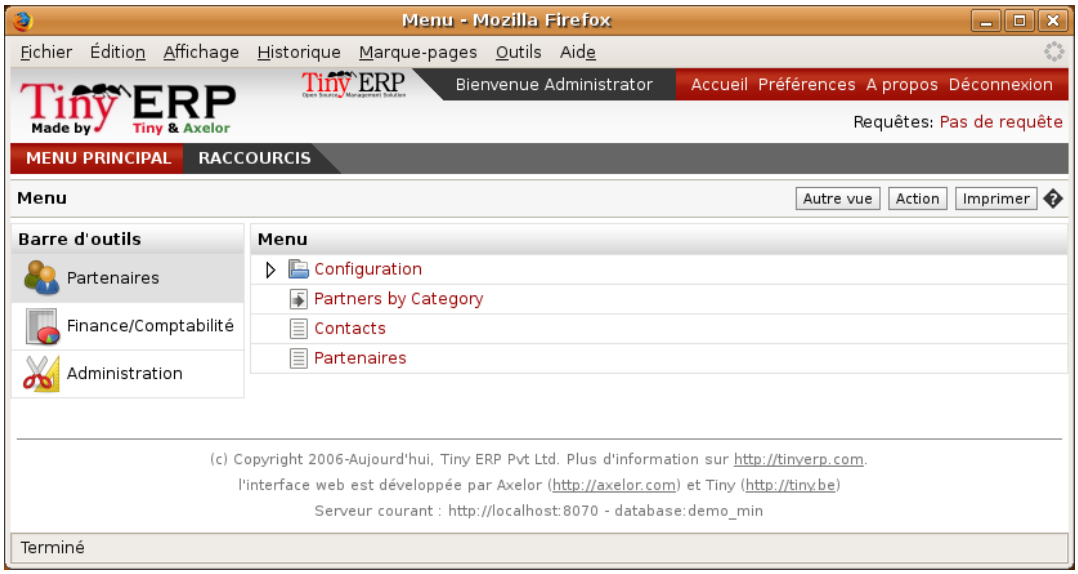
2 ***Define Main Company*** and ***Report Header***: change anything you like on this page to match your own situation. Only the ***Company Name*** and ***Currency*** are required but you should aim to put something relevant in all fields. If you alter the currency you'll need to click the ***Search / Open a resource*** icon to the right of the field to register the name of the currency you type in.
3 ***Summary***: just click the ***Install*** button.
4 ***Installation done***: click ***Ok***.

Now you're signed in as an administrator you'll be able to add functionality and modify database settings.

> **COMMENT Dashboard after connection**
>
> If you'd installed any of the other profiles from the installation wizard you'd find that your login screen shows a dashboard with information related to your user account rather than the main menu.
>
> When that happens the main menu is still available, as you'll see later in this chapter. If you're using the web client you can reach the main menu by clicking the Main Menu link towards the top left of the window. If you're using the GTK client the main menu is in the first tab (which is hidden – it's the second tab containing the dashboard that's initially showing).

Once you're displaying the main menu you're able to see the following screen items:

- the Preferences toolbar to the top right, showing the user name, links to the Home page, Preferences, About and Logout,
- just below you'll find information about the Request system,
- links to the Main Menu and the Shortcuts,
- information about copyright at the bottom of the page,
- the main contents of the window flanked by the menu toolbar to the left and some links up and to the right.



The Main Menu of the openerp_ch02 database

Three menus are available on the left:

- Partners,
- Financial Management,
- Administration.

Preferences toolbar

When you're connected to Open ERP the Preferences toolbar indicates which user you're connected as. So it should currently be showing ***Welcome Administrator*** (unless you logged in as another user and it's reflecting the name of that user instead).

You'll find a link to the ***Home*** page to its right. This takes you to either the dashboard or the available menus, depending on the user configuration. In the case of the `openerp_ch02` database so far the Home page is the Main Menu. But in general each user of the system is presented with a dashboard that's designed to show performance indicators and urgent documents that are most useful to someone of the user's position in the company. You'll see how to assign dashboards to different users in Chapter 13.

> **NOTE Multi-nationals and time zones**
>
> If you have users in different countries, they can configure their own timezone. Timestamp displays are then adjusted by reference to the user's own localization setting.
>
> So if you have a team in India and a team in England, the times will automatically be converted. If an Indian employee sets her working hours from 9 to 6 that will be converted and saved in the

server's timezone. When the English users want to set up a meeting with an Indian user, the Indian user's available time will be converted to English time.

The next element in the Toolbar is a link to ***Preferences***. By clicking that link you reach a page where the current user can set a timezone and a working language:

- The ***Language*** field enables the user's working language to be changed. But first the system must be loaded with other languages for the user to be able to choose an alternative, which is described in the next subsection of this chapter.
- The ***Timezone*** setting indicates the user's location to Open ERP. This can be different from that of the server. All of the dates in the system are converted to the user's timezone automatically.

The ***About*** link gives information about the development of the Open ERP software.

The ***Logout*** link enables you to logout and return to the original login page. You can then login to another database, or to the same database as another user. This page also gives you access to the super-administrator functions for managing databases on this server.

The ***Requests*** link sits just below this toolbar. It is only visible if you're logged into a database. If your database is new it will say `No request`. You can click on that link to look at requests that have been sent to you at any time.

Installing a new language

Each user of the system can work in his or her own language. More than twenty languages are currently available besides English. Users select their working language using the Preferences link. You can also assign a language to a partner (customer or supplier), in which case all the documents sent to that partner will be automatically translated into that language.

KEY TO READING More information about languages

The base version of Open ERP is translated into the following languages: English, German, Chinese, Spanish, Italian, Hungarian, Dutch, Portuguese, Romanian, Swedish and Czech.

But other languages are also available in the Forge (http://tinyforge.org): Arabic, Afghan, Austrian, Bulgarian, Indonesian, Finnish, Thai, Turkish and Vietnamese..

As administrator you can install a new main working language into the system.

1 Select ***Administration*** in the Menu Toolbar and click ***Translations > Load New Language*** in the main menu window.
2 Select the language to install, `French` for example, and click on ***Start Installation***.
3 When the message ***Installation finished*** appears, click ***OK*** to return to the menu.

To see the effects of this installation change the preferences of your user to change the working language. The main menu is immediately translated in the selected language. If you're using the GTK client you'll first have to close the menu then open a new main menu to start seeing things in the new language.

More information Navigating the menu

From this point in the book navigation from the main menu is written as a series of menu entries connected by the > character. Instead of seeing “Select Administration in the Menu toolbar then click Translations > Load New Language” you'll simply get “use menu ***Administration > Translations > Load New Language***”.

Requests as a mechanism for internal communication

Requests are a powerful communication mechanism between users of the system. They're also used by Open ERP itself to send system messages to users.

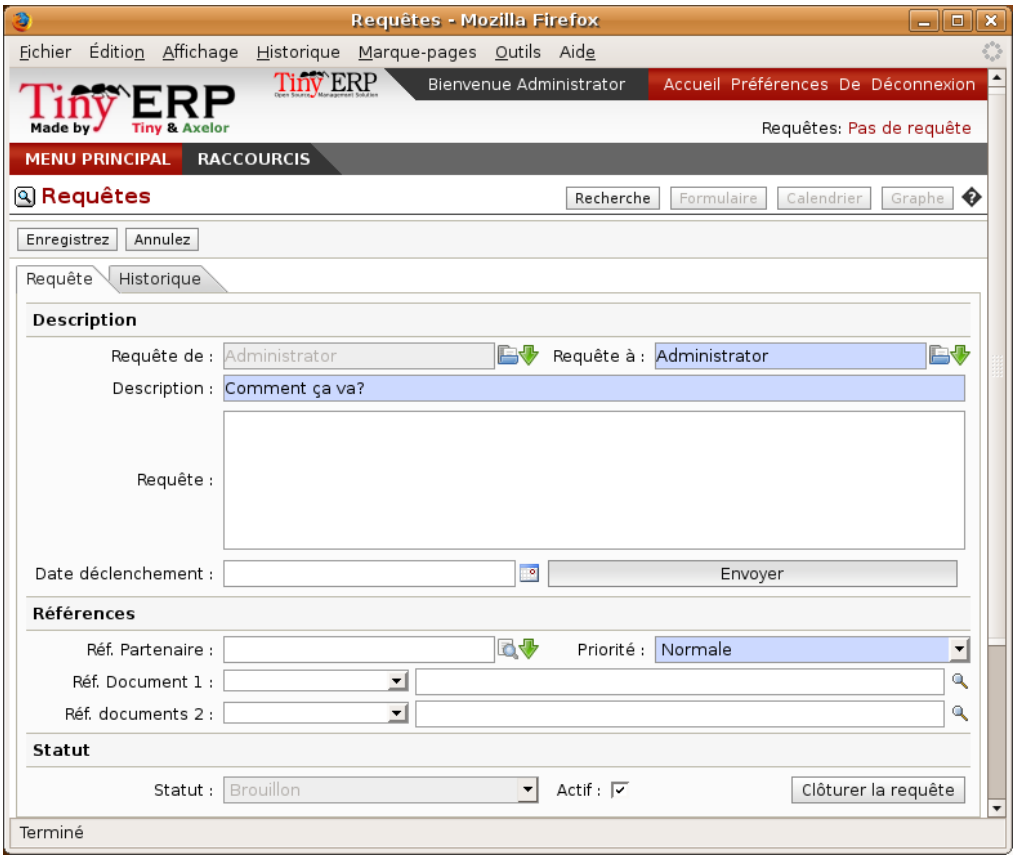
They have distinct advantages over traditional emails:

- requests are linked to other Open ERP documents,
- an event's history is attached to the request,
- you can monitor events effectively from the messages they've sent.

Open ERP uses this mechanism to inform users about certain system events. For example if there's a problem concerning the restocking of a product a request is sent by Open ERP to the production manager.

Send a request to get an understanding of its functionality:

1. Click on the ***Requests*** link that should currently be showing ***No Requests***. This opens a window that lists all of your waiting requests.
2. Click ***New*** to create and send a new request.
3. Complete the subject of the request, such as `How are you?` then give a description of the enquiry in the field.
4. Click the ***Search*** button to the right of the ***Send to*** field and select ***Administrator*** in the window that opens (that's the user that you're already connected as).
5. You can then link this request to other system documents using the ***References*** field, which could, for example, be a partner or a quotation or a disputed invoice.
6. Click ***Send*** to send the request to the intended recipient – that's yourself in this case. Then click ***Main Menu*** to return to the original screen.



Creating a new request

To check your requests:

1 Click on the link to the right of the ***Requests*** label to open a list of your requests. (It's possible that you'll still see the statement ***No Requests*** because this information is updated periodically rather than instantly.) The list of requests then opens and you can see the requests you've been sent there.

2 Click the ***Edit*** icon, represented by a pencil, at the right hand end of the request line. That opens the request in edit mode.

3 You can then click the ***Reply*** button and make your response in the ***Request*** field that appears in place of the original message.

4 Click ***Send*** to save your response and send it to the original sender.

ADVANTAGE Requests vs. email

The advantage of an Open ERP request compared with a set of emails about one thread of discussion is that a request contains all of the conversation in one place. You can easily monitor a whole discussion with the appropriate documents attached, and quickly review a list of incomplete discussions with the history within each request.

Look at the request and its history, then close it.

1 Click on the ***History*** tab in the ***Request*** form to see the original request and all of the responses. By clicking on each line you could get more information on each element.
2 Return to the first tab, ***Request*** and click End of ***Request*** to set it to `closed`. This then appears greyed out.

The request is no longer active. It's not visible to searches and won't appear in your list of waiting requests.

NOTE Trigger dates

You can send a request with a future date. This request won't appear in the recipient's waiting list until the indicated date. This mechanism is very useful for setting up alerts before an important event.

Configuring Users

The database you created contains minimal functionality but can be extended to include all of the potential functionality available to Open ERP. About the only functions actually available in this minimal database are Partners and Currencies – and these only because the definition of your main company required this. And because you chose to include demonstration data, both Partners and Currencies were installed with some samples.

Because you logged in as Administrator, you have all the access you need to configure users. Click ***Administration > Users > Users*** to display the list of users defined in the system. A second user, `Demo User`, is also present in the system as part of the demonstration data. Click the `Demo User` name to open a non-editable form on that user.

Click the ***Security*** tab to see that the demo user is a member of no groups, has no roles and is subject to no specialized rules. The `admin` user is different, as you can see if you follow the same sequence to review the its definition. It's a member of the `admin` group, which gives it more advanced rights to configure new users.

DEFINITION Roles, Groups and Users

Users and groups provide the structure for specifying access right to different documents. Their setup answers the question “who has access to what?”

Roles are used in business processes for permitting or blocking certain steps in the workflow of a given document. For example you can assign the role of approving an invoice. Roles answer the question “Who should do what?”

Click ***Administration > Users > Groups*** below the main menu to open the list of groups defined in the system. If you open the form view of the `admin` group by clicking its name in the list, the first tab give you the list of all the users who belong to this group.

Click the Security tab and it gives you details of the access rights for that group. These are detailed in Chapter 13, but you can already see there further up in the window, the list of menus reserved for the admin group. By convention, the `admin` in Open ERP has rights of access to the ***Configuration*** menu in each section. So `Partners / Configuration` is found in the list of access rights but `Partners` isn't found there because it's accessible to all users.

You can create some new users to integrate them into the system. Assign them to predefined groups to grant them certain access rights. Then try their access rights when you login as these users. Management defines these access rights as described in Chapter 13.

> **NOTE Access rights in later versions of Open ERP**
>
> This is an area where future versions of Open ERP are changing: many groups are being predefined and access to many of the menus and objects will be keyed to these groups by default. This is quite a contrast to the rather liberal approach in 4.2.2 and before, where access rights could be defined but were not activated by default.

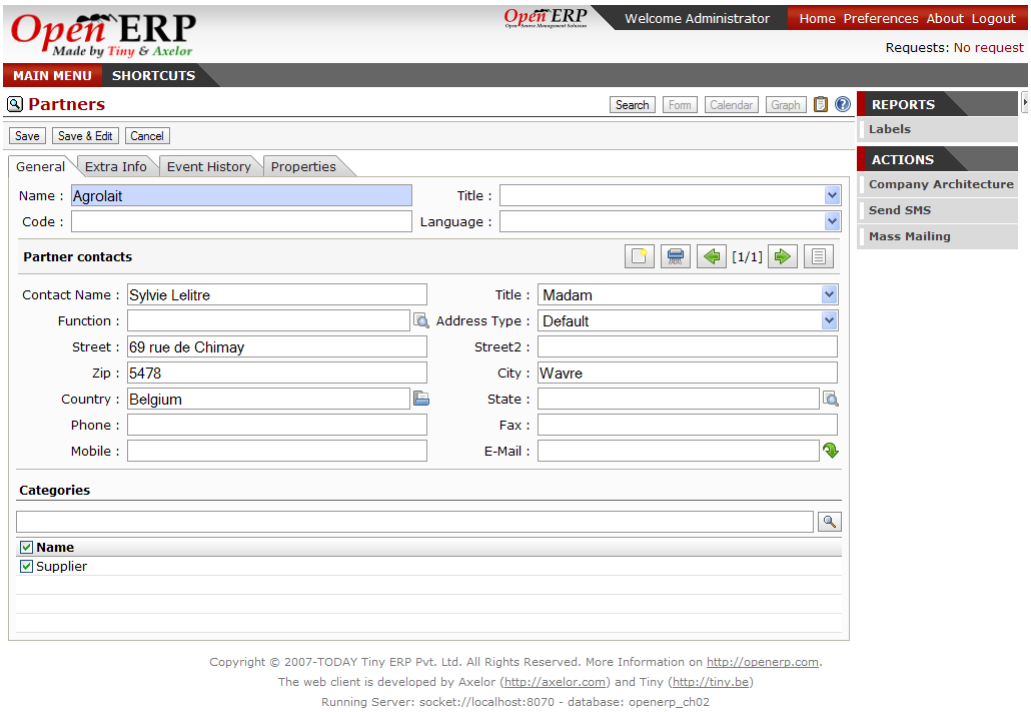
Managing partners

In Open ERP, a partner represents an entity that you do business with. That can be a prospect, a customer, a supplier, or even an employee of your company.

List of partners

Click ***Partners > Partners*** in the main menu to open the list of partners. Then click the name of the first partner to get hold of the details – a form appears with several tabs on it:

- the ***General*** tab contains the main information about the company, such as its corporate name, its primary language, your different contacts at that partner and the categories it belongs to.
- the ***Extra Info*** tab contains information that's slightly less immediate.
- the ***Event History*** tab contains the history of all the events that the partner has been involved in. These events are created automatically by different system documents: invoices, orders, support requests and so on. These give you a rapid view of the partner's history on a single screen.
- the ***Properties*** tab contains partner settings related to accounting, inventory and other areas: you can leave this alone for the moment.



Partner form

DEFINITION Partner Categories

Partner Categories enable you to segment different partners according to their relation with you (client, prospect, supplier, and so on). A partner can belong to several categories – for example it may be both a customer and supplier at the same time.

Partner Categories

You can list your partners by category using the menu ***Partners > Partners by category***. This opens a hierarchical structure of categories where each category can be divided into sub-categories. Click a category to obtain a list of partners in that category. For example, click all of the partners in the category ***Supplier*** or ***Supplier > Components Supplier***. You'll see that if a company is in a subcategory (such as ***Components Supplier***) then it will also show up when you click the parent category (such as ***Supplier***).

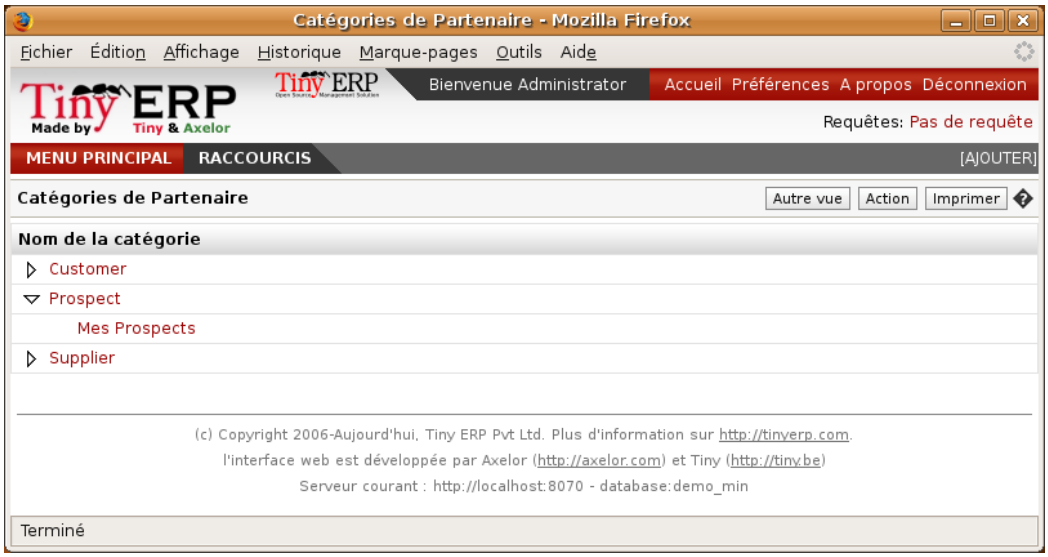
Categories of partner in a hierarchical structure : Customer, Prospect, Supplier ...

The administrator can define new categories. So you'll create a new category and link it to a partner:

1 Use ***Partners > Configuration > Categories > Edit Category*** to reach a list of the same categories as above but in a list view rather than a hierarchical tree structure.
2 Click ***New*** to open an empty form for creating a new category
3 Enter `My Prospects` in the field ***Name of Category***. Then click on the ***Search*** icon to the right of the ***Parent Category*** field and select `Prospect` in the list that appears.
4 Then save your new category using the Save button.

> **ATTENTION Required Fields**
>
> Fields colored blue are required. If you try to save the form while any of these fields are empty the field turns red to indicate that there's a problem. It's impossible to save the form until you've completed every required field.

You can review your new category structure using ***Partners > Partners by category***. You should see the new structure of `Prospects / My Prospects` there.



Creating a new partner category : My prospects

To create a new partner and link it to this new category open a new partner form to modify it.

1 In the ***General*** tab, type `New Partner` into the ***Name*** field.

2 Then click on the search icon to the right of the ***Categories*** field and select your new category from the list that appears: `Prospect / My Prospects`.

3 Then save your partner by clicking ***Save***. The partner now belongs in the category `Prospect / My prospects`.

4 Monitor your modification in the menu ***Partners > Partners by category***. Select the category `My Prospect`. The list of partners opens and you'll find your new partner there in that list.

NOTE Searching for documents

If you need to search through a long list of partners it's best to use the available search criteria rather than scroll through the whole partner list. It's a habit that'll save you a lot of time in the long run as you search for all kinds of documents.

EXAMPLE Categories of partners

A partner can be assigned to several categories. These enable you to create alternative classifications as necessary, usually in a hierarchical form.

Here are some structures that are often used:

- geographical locations,
- interest in certain product lines,

- subscriptions to newsletters,
- type of industry.

Installing new functionality

All of Open ERP's functionality is contained in its many and various modules. Many of these, the core modules, are automatically loaded during the initial installation of the system and can be updated online later. Although they're mostly not installed in your database at the outset, they're available on your computer for immediate installation. Additional modules can also be loaded online from the official Open ERP site http://openerp.com. These modules are inactive when they're loaded into the system, and can then be installed in a separate step.

You'll start by checking if there are any updates available online that apply to your initial installation. Then you'll install a CRM module to complete your existing database.

Updating the Modules list

Click ***Administration > Modules Management > Update Modules List*** to start the updating tool. The ***Scan for new modules*** window opens showing the addresses that Open ERP will look in for downloading new modules (known as the repositories), and updating existing ones.

> **Note Remote module repositories**
>
> If the repository list doesn't reflect your needs then you can edit it from ***Administration > Modules Management > Repositories***. There you can link to new repositories by adding their URLs and disable listed ones by unchecking their ***Active*** checkbox. If you're not connected to the Internet then you probably want to disable anything there.
>
> Your Open ERP installation must be configured with its `addons` directory as writable for you to be able to download anything at all. If it hasn't been, then you may need the assistance of a systems administrator to change your server's settings so that you can install new modules.

Click ***Check New Modules*** to start the download from the specified locations. When it's complete you'll see a ***New Modules*** window indicating how many new modules were downloaded and how many existing modules were updated. Click ***OK*** to return to the updated list.

It won't matter in this chapter if you can't download anything, but some of the later chapters refer to modules that aren't part of the core installation and have to be obtained from a remote repository.

> **Technique Modules**
>
> All the modules available on your computer can be found in the `addons` directory of your Open ERP server. Each module there is

represented by a directory carrying the name of the module or by a file with the module name and .zip appended to it. The file is in ZIP archive format and replicates the directory structure of unzipped modules.

ATTENTION Searching through the whole list

The list of modules shows only the first available modules. In the web client you can search or follow the ***First*** / ***Previous*** / ***Next*** / ***Last*** links to get to any point in the whole list, and you can change the number of entries listed by clicking the row number indicators between ***Previous*** and ***Next*** and selecting a different number from the default of 20.

If you use the GTK client you can search, as you would with the web client, or use the + icon to the top left of the window to change the number of entries returned by the search from its default limit of 80, or its default offset of 0 (starting at the first entry) in the whole list.

Installing a module

You'll now install a module named `product`, which will enable you to manage the company's products. This is part of the core installation, so you don't need to load anything to make this work, but isn't installed in the Minimal Profile.

Open the list of uninstalled modules from ***Administration*** > ***Modules Management*** > ***Uninstalled Modules***. Search for the module by entering the name `product` in the search screen then clicking it in the list that appears below it to open it. The form that describes the module gives you useful information such as its version number, its status and a review of its functionality. Click ***Install*** and the status of the module changes to `To be installed`.

Installation of the product module

> **TECHNIQUE Technical Guide**
>
> If you select a module in any of the module lists by clicking on a module line and then on Technical Guide at the top right of the window, Open ERP produces a technical report on that module. It's helpful only if the module is installed, so the menu ***Administration > Modules Management > Installed Modules*** produces the most fruitful list.
>
> This report comprises a list of all the objects and all the fields along with their descriptions. The report adapts to your system and reflects any modifications you've made and all the other modules you've installed.

Click ***Apply Upgrades*** then ***Start Upgrades*** on the ***System Upgrade*** form that appears. Close the window when the operation has completed. Return to the main menu you'll see the new menu ***Products*** has become available.

GTK CLIENT Refreshing the menu

After an update in the GTK client you'll have to open a new menu to refresh the content – otherwise you won't see the new menu item. To do that use the window menu ***Form > Refresh/Cancel***.

Installing a module with its dependencies

You'll now install the CRM module (Customer Relationship Management) using the same process as before.

1. Use ***Administration > Modules Management > Uninstalled Modules*** to get a list of modules to install. Search for the `crm` module in that list.
2. Install the module by clicking ***Install*** and then ***Apply Upgrades*** on the resulting module form, followed by ***Start Upgrade*** on the toolbar to the right.
3. When the update screen appears, Open ERP gives you the list of modules that it will install and update. You'll find two modules there – `crm` (which you selected) and `account`. What's happened is that the `crm` module lists the `account` module as a dependency, and `account` is not yet installed. So Open ERP automatically installs `account`.
4. Start the upgrade to install both modules.

When you return to the main menu you'll find the new customer relationship management menu ***CRM & SRM***. You'll also see all the accounting functions that are now available in the ***Financial Management*** menu.

There is no particular relationship between the modules installed and the menus added. Most of the core modules add complete menus but some also add submenus to menus already in the system. Other modules add menus and submenus as they need. Modules can also add additional fields to existing forms, or simply additional demonstration data or some settings specific to a given requirement.

TECHNIQUE Dependencies between modules

The module form shows two tabs. The first tab gives basic information about the module and the second gives a list of modules that this module depends on. So when you install a module, Open ERP automatically selects all the necessary dependencies to install this module.

That's also how you develop the profile modules: they simply define a list of modules that you want in your profile as a set of dependencies.

Although you can install a module and all its dependencies at once, you can't remove them in one fell swoop – you'd have to uninstall module by module. Uninstalling is more complex than installing because you have to handle existing system data.

ATTENTION Uninstalling modules

Although it works quite well, uninstalling modules isn't perfect in Open ERP. It's not guaranteed to return the system exactly to the state it was in before installation.

So it's recommended that you make a backup of the database before installing your new modules so that you can test the new

modules and decide whether they're suitable or not. If they're not then you can return to your backup. If they are, then you'll probably still reinstall the modules on your backup so that you don't have to delete all your test data.

If you wanted to uninstall you would use the menu ***Administration > Modules Management > Installed Modules*** and then uninstall them in the inverse order of their dependencies: `crm`, `account`, `product`.

Installing additional functionality

To discover the full range of Open ERP's possibilities you can install many additional modules. Installing them with their demonstration data provides a convenient way of exploring the whole core system. When you build on the `openerp_ch02` database you'll automatically include demonstration data because you checked the ***Load Demonstration Data*** checkbox when you originally created the database.

So click ***Administration > Modules Management > Update Modules List*** to upload and update to the latest versions of everything on the Open ERP site. If you don't have an internet connection, or if you're not permitted to modify your installation's `addons` directory you can skip this step.

ATTENTION Importing new modules

You can only import new modules and update your existing ones if your system is configured to accept them. Your Open ERP `addons` directory must be writable by the system user that's running your Open ERP application for this, as described in the final section of Chapter 1.

Click ***Administration > Modules Management > Uninstalled modules*** to give you an overview of all of the modules available for installation.

To test several modules you won't have to install them all one by one. You can use the dependencies between modules to load several at once. For example, try loading the following modules:

- `profile_accounting`,
- `profile_manufacturing`,
- `profile_service`.

To find these quickly, enter the word `profile` in the ***Name*** field of the search form and click ***Filter*** to search for the relevant modules. Then install them one by one or all at once.

As you update you'll see thirty or so modules to be installed. When you close the ***System Upgrade Done*** form you'll be returned to a dashboard, not the main menu you had before. To get to the main menu, use the ***Main Menu*** link.

Guided Tour of Open ERP

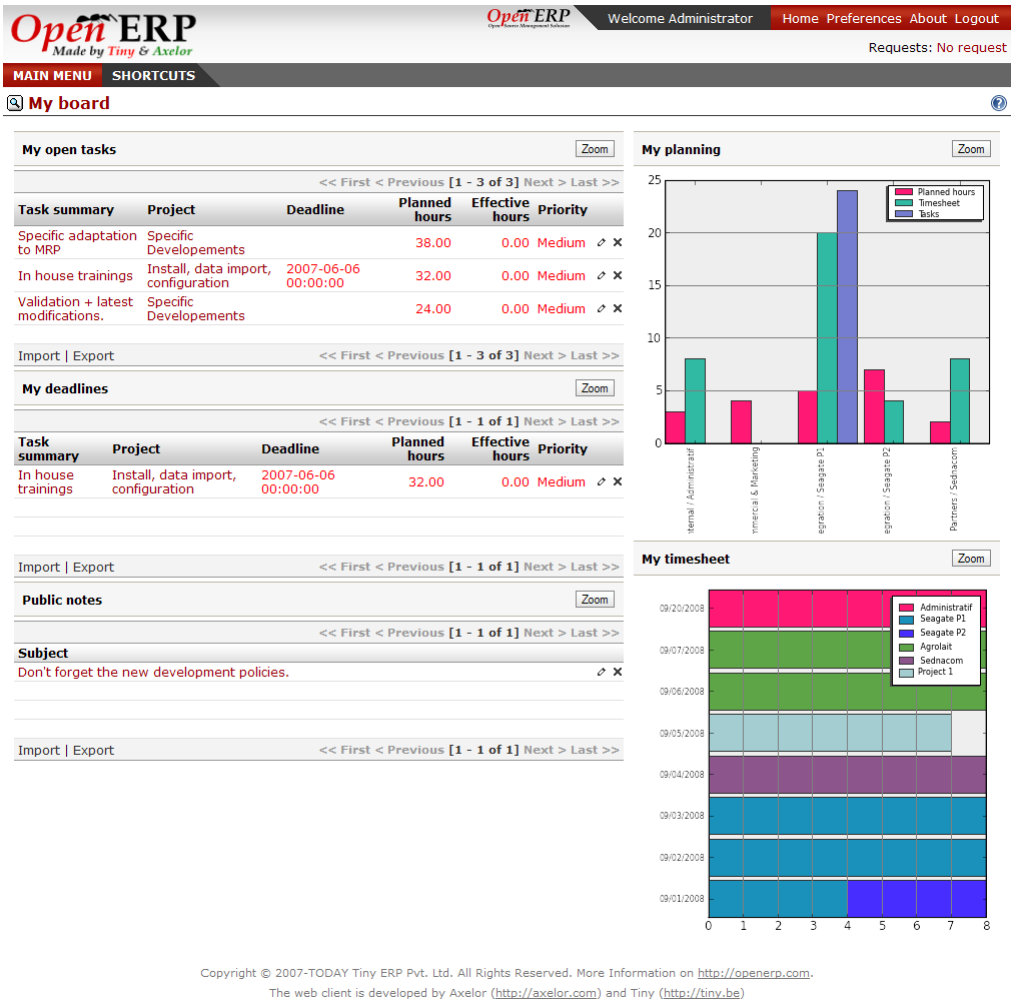
You'll now explore the database `openerp_ch02` with these profile modules installed to give you an insight into the coverage of the core Open ERP software.

> **ATTENTION Translating new modules**
>
> When you've installed a new module and are using additional languages to English you have to reload the translation file. New terms introduced in these modules aren't translated by default. To do this use ***Administration > Translation > Load a New Language***.

Depending on the user you're connected as the page appears differently from the Main Menu that showed before. Using the installation sequence above, in version 4.2.2, the Project Dashboard for a project member is assigned as the Administrator's home page. It shows a summary of the information required to start the day effectively. The dashboard contains:

- a list of the next tasks to carry out,
- a list of the next deadlines,
- public notes about projects,
- a planning chart of hours required,
- the timesheet.

Each of the lists can be reordered by clicking on the heading of a column – first in ascending then in descending order as you click repeatedly. To get more information about any particular entry click on the name in the first column, or if you want to show a particular panel click ***Zoom*** above it.



Project Dashboard

Users' home pages are automatically reassigned during the creation or upgrading of a database. It's usual to assign a dashboard to someone's home page but any Open ERP screen can be assigned to the home page of any user.

> **Note Creating shortcuts**
>
> Each user has access to many menu items throughout all of the available menu hierarchy. But in general an employee uses only a small part of the system's functions.
>
> So you can define shortcuts for the most-used menus. These shortcuts are personal for each user. To create a new shortcut open the select menu and click on the ***Add*** link to the right of shortcuts.

> To change or replace a link click on the ***Shortcuts*** link. Open ERP then opens a list of editable shortcuts.

The following sections present an overview of the main functions of Open ERP. Some areas are covered in more detail in the following chapters of this book and you'll find many other functions available in the optional modules. Functions are presented in the order that they appear on the main menu.

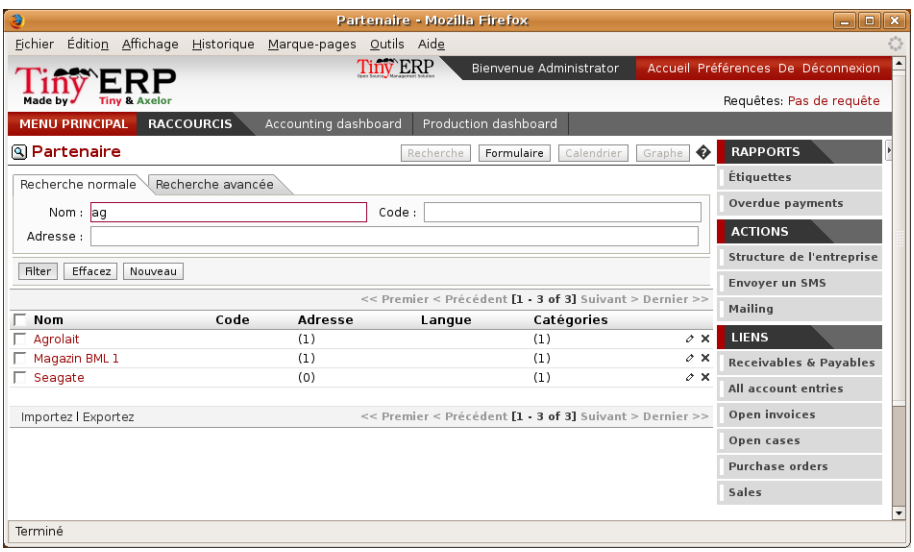
Partners

To familiarize yourself with Open ERP's interface, you'll start work with information about partners. Clicking ***Partners > Partners*** brings up a list of partners that were automatically loaded when you created the database with ***Load Demonstration Data*** checked.

Search for a partner

Above the partner list you'll see a search form that enables you to quickly filter the partners. Two tabs are available for searching – ***Basic Search*** and ***Advanced Search***. The latter simply shows more fields to narrow your selection.

If you've applied no filter, the list shows every partner in the system. For space reasons this list shows only the first few partners (the web client defaults to `20`, but you can select a maximum of `100` on a page). If you want to display other records you can search for them or navigate through the whole list using the ***First*** / ***Previous*** / ***Next*** / ***Last*** arrows.



Standard partner search

GTK CLIENT List limit of 80

By default the list in the GTK client shows only the first 80 records, to avoid overloading the network and the server.

But you can change that limit by clicking the + icon to the left of the search criteria, and you can change the offset so that it starts further down the whole list than the first entry.

If you click on the name of a partner the form view corresponding to that partner opens in Read-Only mode. In the list you could alternatively click the pencil icon to open the same form in Edit mode. Once you have a form you can toggle between the two modes by clicking ***Save*** or ***Cancel*** when in Edit mode and ***Edit*** when in Read-Only mode.

When you're in Read-Only mode you can navigate through the whole list you selected, as though you were in the List view. In Read-Only mode you can also click ***Search*** to see the form in List view again.

Partner form

The partner form contains several tabs, all referring to the current record:

- ***General***,
- ***Extra Info***,
- ***Event History***,
- ***Properties***.

The fields in a tab aren't all of the same type – some (such as ***Name***) contain free text, some (such as the ***Language***) enable you to select a value from a list of options, others give you a view of another object (such as ***Partner Contacts*** – because a partner can have several contacts) or a list of link to another object (such as ***Categories***). There are checkboxes (such as the ***Active*** field in the ***Extra Info*** tab), numeric fields (such as ***Credit Limit***) and date fields (such as ***Date***).

The ***Events History*** tab gives a quick overview of things that have happened to the partner – an overview of useful information such as orders, open invoices and support requests. Events are generated automatically by Open ERP from changes in other documents that refer to this partner.

It's possible to add events manually, such as a note recording a phone call. To add a new event click ***Create new record*** to the right of the ***Partner Events*** field. That opens a new ***Partner Events*** dialog box enabling an event to be created and added to the current partner.

Actions possible on a partner

To the right of the partner form is a toolbar containing a list of possible ***Reports***, ***Actions***, and quick ***Links*** about the partner displayed in the form.

You can generate PDF documents about the selected object (or, in list view, about one or more selected objects) using the following buttons in the ***Reports*** section of the toolbar:

- ***Labels***: print address labels for the selected partners,
- ***Overdue payments***: generate followup letters for overdue payments from partners. Each letter is printed in the language of the partner or, by default, in English.

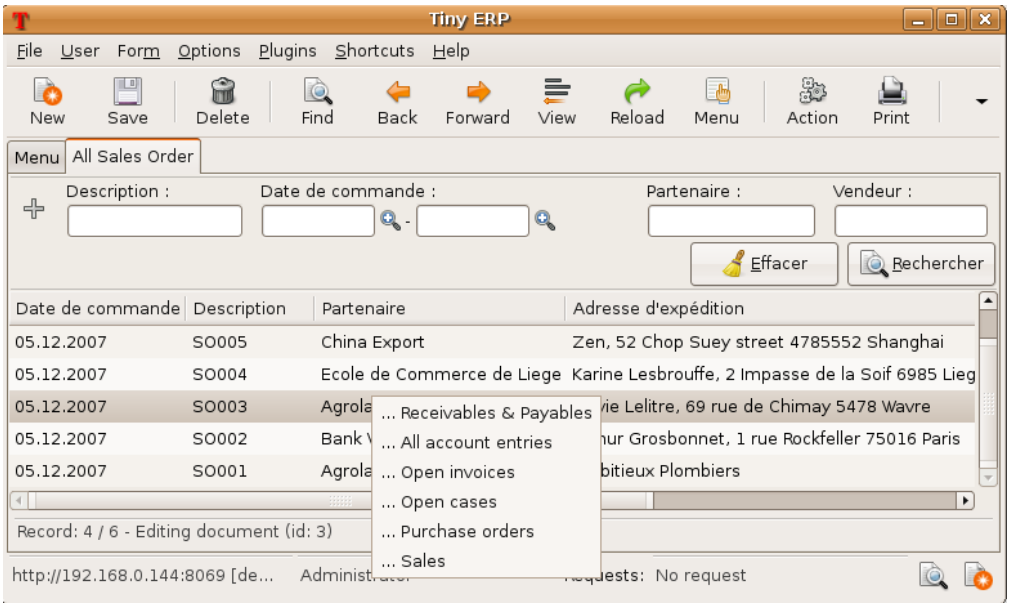
Certain actions can be started by the following buttons in the ***Actions*** section of the toolbar:

- ***Company Architecture***: opens a window showing the partners and their children in a hierarchical structure.
- ***Send SMS***: enables you to send an SMS to selected partners. This system uses the bulk SMS facilities of the Clickatell® company http://clickatell.com.
- ***Mass Mailing***: enables you to send an email to a selection of partners.

> **GTK CLIENT Reports, Actions and Links**
>
> When you're viewing a form in the GTK client, the buttons to the right of the form are shortcuts to the same ***Reports***, ***Actions*** and ***Links*** as described in the text. When you're viewing a list (such as the partner list) those buttons aren't available to you. Instead, you can reach Reports and Actions through two of the buttons in the toolbar at the top of the list – ***Print*** and ***Action***.

Partners are used throughout the Open ERP system in other documents. For example, the menu ***Sales Management > Sales Orders > All Sales Orders*** brings up all the Sales Orders in list view. Click the name of a partner rather than the order number on one of those lines and you'll get the Partner form rather than the Sales Order form.

> **NOTE Right click and shortcuts**
>
> In the GTK client you don't get hyperlinks to other document types. Instead, you can right-click in a list view to show the linked fields (that is fields having a link to other forms) on that line.
>
> In the web client you'll see hyperlink shortcuts on several of the fields on a form that's in Read-Only mode, so that you can move onto the form for those entries. When the web form is in Edit mode, you can instead hold down the control button on the keyboard and right-click with the mouse button in the field, to get all of the linked fields in a pop-up menu just as you would with the GTK client.
>
> You can quickly try this out by going to any one of the sales orders in ***Sales Management > Sales Order > All Sales Orders*** and seeing what you can reach from the partner field on that sales order form using either the web client with the form in both read-only and in edit mode, or with the GTK client.


Tiny ERP
File User Form Options Plugins Shortcuts Help
New Save Delete Find Back Forward View Reload Menu Action Print
Menu All Sales Order
Description :
Date de commande :
Partenaire :
Vendeur :
Effacer
Rechercher
Date de commande Description Partenaire Adresse d'expédition
05.12.2007 SO005 China Export Zen, 52 Chop Suey street 4785552 Shanghai
05.12.2007 SO004 Ecole de Commerce de Liege Karine Lesbrouffe, 2 Impasse de la Soif 6985 Lieg
05.12.2007 SO003 Agrola ie Lelitre, 69 rue de Chimay 5478 Wavre
05.12.2007 SO002 Bank V ur Grosbonnet, 1 rue Rockfeller 75016 Paris
05.12.2007 SO001 Agrola bitieux Plombiers
... Receivables & Payables
... All account entries
... Open invoices
... Open cases
... Purchase orders
... Sales
Record: 4 / 6 - Editing document (id: 3)
http://192.168.0.144:8069 [de...
No request

Links for a partner appear in an order form

Before moving on to the next module, take a quick look into the ***Partners > Configuration*** menu, particularly ***Categories*** and ***Localisation***. They contain some of the demonstration data that you installed when you created the database.

Accounting and finance

Chapters 6 to 9 in this book are dedicated to general and analytic accounting. A brief overview of the functions provided by these modules is given here as an introduction.

Accounting is totally integrated into all of the company's functions, whether it's general, analytic, budgetary or auxiliary accounting. Open ERP's accounting function is double-entry and supports multiple company divisions and multiple companies, as well as multiple currencies and languages.

Accounting that's integrated throughout all of the company's processes greatly simplifies the work of inputting accounting data, because most of the entries are generated automatically while other documents are being processed. You can avoid entering data twice in Open ERP, which is commonly a source of errors and delays.

So Open ERP's accounting isn't just for financial reporting – it's also the anchor point for many of a company's management processes. For example if one of your accountants puts a customer on credit hold then that will immediately block any other action related to that company's credit (such as a sale or a delivery).

Open ERP also provides integrated analytical accounting, which enables management by business activity or project and provides very detailed levels of analysis. You can

control your operations based on business management needs, rather than on the charts of accounts that generally meet only statutory requirements.

Dashboards

Dashboards give you an overview of all the information that's important to you on a single page. The ***Dashboards*** menu gives you access to predefined boards for ***Accounting***, ***Production*** and ***Project Management***.

> **DEFINITION Dashboards**
>
> Unlike most other ERP systems and classic statistically-based systems, Open ERP lets dashboards be provided to all of the system's users, and not just to directors and accountants.
>
> Users can each have their own dashboard, adapted to their needs, to enable them to manage their own work effectively. For example a developer using the Project Dashboard can see such information as a list of the next tasks, task completion history and an analysis of the state of progress of the relevant projects.

Dashboards are dynamic, which enables you to easily navigate around the whole information base. Using the icons above a graph, for example, you can filter the data or zoom into the graph. You can click on any element of the list to get detailed statistics on the selected element.

Dashboards are adaptable to the needs of each user and each company.

> **NOTE Construction of dashboards**
>
> Version 4.3 of Open ERP contains a dashboard editor. It enables you to construct your own dashboard to fit your specific needs using only a few clicks.

Products

In Open ERP, product means a raw material, a stockable product, a consumable or a service. You can work with whole products or with templates that separate the definition of products and variants.

For example if you sell t-shirts in different sizes and colors:

- the product template is the “T-shirt” which contains information common to all sizes and all colors,
- the variants are “Size:S” and “Colour:Red”, which define the parameters for that size and color,
- the final product is thus the combination of the two – t-shirt in size S and color Red.

The value of this approach for some sectors is that you can just define a template in detail and all of its available variants briefly rather than every item as an entire product.

EXAMPLE Product templates and variants

A product can be defined as a whole or as a product template and several variants. The variants can be in one or several dimensions, depending on the installed modules.

For example, if you work in textiles, the variants on the product template for “T-shirt” are:

- Size (S, M, L, XL, XXL),
- Co lour (white, grey, black, red),
- Quality of Cloth (125g/m2, 150g/m2, 160g/m2, 180g/m2),
- Collar (V, Round).

This separation of variant types requires the optional module `fashion`. Using it means that you can avoid an explosion in the number of products to manage in the database. If you take the example above it's easier to manage a template with 15 variants in four different types than 160 completely different products. This module is available in the extra_addons list (although it had not been updated, at the time of writing, to work in release 4.2.2 of Open ERP).

The ***Products*** menu gives you access to the definition of products and their constituent templates and variants, and to price lists.

TERMINOLOGY Consumables

In Open ERP a consumable is a physical product which is treated like a stockable product except that stock management isn't taken into account by the system. You could buy it, deliver it or produce it but Open ERP will always assume that there's enough of it in stock. It never triggers a restocking exception.

Open a product form to see the information that describes it. Several different types of product can be found in the demonstration data, giving quite a good overview of the possible options.

Price lists (***Products > Pricelists***) determine the purchase and selling prices and adjustments derived from the use of different currencies. The ***Default Purchase Pricelist*** uses the product's ***Cost*** field to base a Purchase price on. The ***Default Sale Pricelist*** uses the product's ***List Price*** field to base a Sales price on when issuing a quote.

Price lists are extremely flexible and enable you to put a whole price management policy in place. They're composed of simple rules that enable you to build up a rule set for most complex situations: multiple discounts, selling prices based on purchase prices, price reductions, promotions on whole product ranges and so on.

You can find many optional modules to extend product functionality through the Open ERP website, such as:

- `membership`: for managing the subscriptions of members of a company,
- `product_electronic`: for managing electronic products,
- `product_extended`: for managing production costs,

- `product_expiry`: for agro-food products where items must be retired after a certain period,
- `product_lot_foundry`: for managing forged metal products.

Human Resources

Open ERP's Human Resources Management modules provide such functionality as:

- management of staff and the holiday calendar,
- management of employment contracts,
- benefits management,
- management of holiday and sickness breaks,
- managing claims processes,
- management of staff performance,
- management of skills and competencies.

Most of these functions are provided from optional modules whose name starts with `hr_` rather than the core HR module, but they're all loaded into the main ***Human Resources*** menu.

The different issues are handled in detail in the fourth section of this book, dedicated to internal organization and to the management of a services business.

Inventory Control

The various sub-menus under Inventory Control together provide operations you need to manage stock. You can:

- define your warehouses and structure them around locations and layouts of your choosing,
- manage inventory rotation and stock levels,
- execute packing orders generated by the system,
- execute deliveries with delivery notes and calculate delivery charges,
- manage lots and serial numbers for traceability,
- calculate theoretical stock levels and automate stock valuation,
- create rules for automatic stock replenishment.

Packing orders and deliveries are usually defined automatically by calculating requirements based on sales. Stores staff use picking lists generated by Open ERP, produced automatically in order of priority.

Stock management is, like accounting, double-entry. So stocks don't appear and vanish magically within a warehouse, they just get moved from place to place. And, just like accounting, such a double-entry system gives you big advantages when you come to audit stock because each missing item has a counterpart somewhere.

Most stock management software is limited to generating lists of products in warehouses. Because of its double-entry system Open ERP automatically manages customer and suppliers stocks as well, which has many advantages: complete

traceability from supplier to customer, management of consigned stock, and analysis of counterpart stock moves.

Furthermore, just like accounts, stock locations are hierarchical, so you can carry out analyses at various levels of detail.

Customer and Supplier Relationship Management

Open ERP provides many tools for managing relationships with partners. These are available through the ***CRM & SRM*** menu.

> **Terminology CRM and SRM**
>
> CRM stands for Customer Relationship Management, a standard term for systems that manage client and customer relations. SRM stands for Supplier Relationship Management, and is commonly used for functions that manage your communications with your suppliers.

The concept of a “case” is used to handle arbitrary different types of relationship, each derived from a generic method. You can use it for all types of communication such as order enquiries, quality problems, management of a call center, record tracking, support requests and job offers.

Open ERP ensures that each case is handled effectively by the system's users, customers and suppliers. It can automatically reassign a case, track it for the new owner, send reminders by email and raise other Open ERP documentation and processes.

All operations are archived, and an email gateway lets you update a case automatically from emails sent and received. A system of rules enables you to set up actions that can automatically improve your process quality by ensuring that open cases never escape attention.

As well as those functions, you've got tools to improve the productivity of all staff in their daily work:

- a document editor that interfaces with OpenOffice.org,
- interfaces to synchronize your contacts and Outlook Calendar with Open ERP,
- an Outlook plugin enabling you to automatically store your emails and their attachments in a Document Management System integrated with Open ERP,
- a portal for your suppliers and customers that enables them to access certain data on your system.

You can implement a continuous improvement policy for all of your services, by using some of the statistical tools in Open ERP to analyze the different communications with your partners. With these, you can execute a real improvement policy to manage your service quality.

The management of customer relationships is detailed in the second section of this book (see Chapters 4 and 5).

Purchase Management

Purchase management enables you to track your suppliers' price quotations and convert them into Purchase Orders as you require. Open ERP has several methods of monitoring invoices and tracking the receipt of ordered goods.

You can handle partial deliveries in Open ERP, so you can keep track of items that are still to be delivered on your orders, and you can issue reminders automatically.

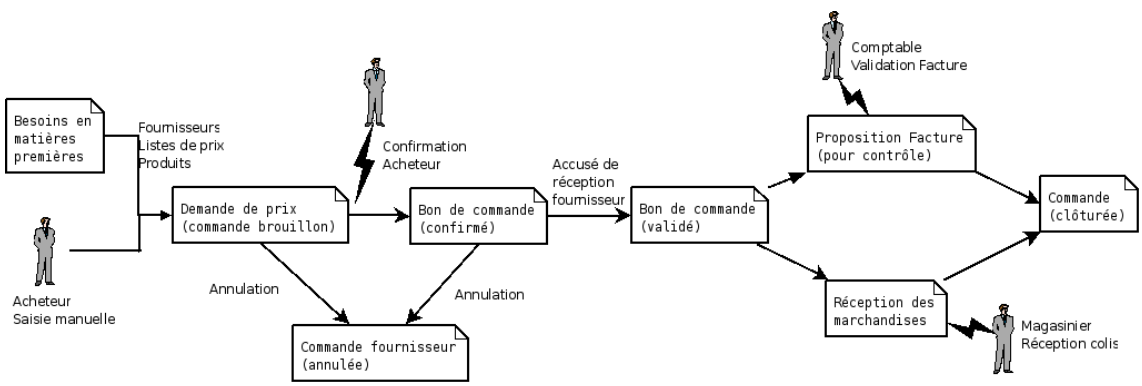
Open ERP's replenishment management rules enable the system to generate draft purchase orders automatically, or you can configure it to run a lean process driven entirely by current production needs.

NOTE Workflow visualization

Open ERP can show you the workflow of any operating process and the current state of a document following the workflow, to help you understand your company processes. This operation is available in the GTK client, not (at the time of writing) the web client.

For example, open a supplier Purchase Order form in the GTK client. Click ***Plugins > Execute a Plugin***, then select ***Print Workflow (complex)*** and click ***OK***.

As the Purchase Order progresses, you can keep reprinting the displayed workflow. The order's state is marked by nodes colored red.

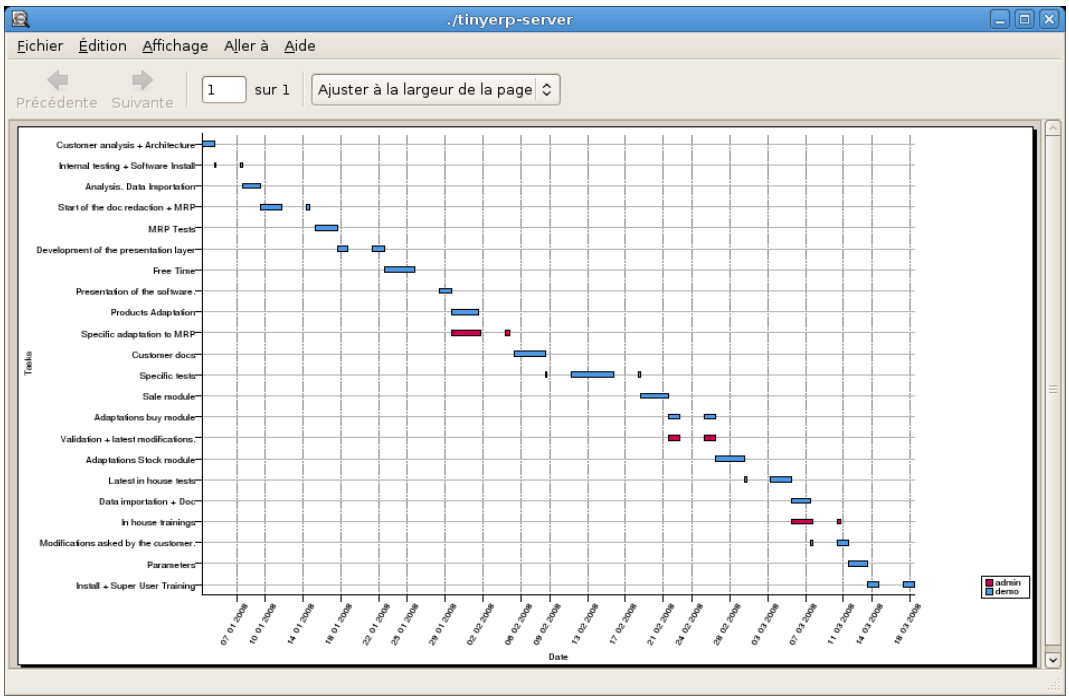


Purchase order workflow

Project Management

Open ERP's project management tools enable you to handle the definition of tasks and the specification of requirements for those tasks, efficient allocation of resources to the requirements, project planning, scheduling and automatic communication with partners.

All projects are hierarchically structured. You can review all of the projects from the menu ***Project Management > All Projects*** . To view a project's plans, select a project line and then click ***Print***. Then select ***Gantt diagram*** to obtain a graphical representation of the plan.



Project Planning

You can run projects related to Services or Support, Production or Development – it's a universal module for all enterprise needs.

Project Management is described in Chapter 12.

Production Management

Open ERP's production management capabilities enable companies to plan, automate, and track manufacturing and product assembly. Open ERP supports multi-level Bills of Materials and lets you substitute subassemblies dynamically, at the time of sales ordering. You can create virtual sub-assemblies for reuse on several products with Phantom Bills of Materials.

> **Terminology BoMs, routing, workcenters**
>
> These documents describe the materials that make up a larger assembly. They're commonly called Bills of Materials or BoMs.

> They're linked to routings which list the operations needed to carry out the manufacture or assembly of the product.
>
> Each operation is carried out at a workcenter, which can be a machine, a tool, or a person.

Production orders based on your company's requirements are scheduled automatically by the system, but you can also run the schedulers manually whenever you want. Orders are worked out by calculating the requirements from sales, through Bills of Materials, taking current inventory into account. The production schedule is also generated from the various lead times defined throughout, using the same route

The demonstration data contains a list of products and raw materials with various classifications and ranges. You can test the system using this data.

Sales Management

The Sales Management menu gives you roughly the same functionality as the Purchase Management menu – the ability to create new orders and to review the existing orders in their various states – but there are important differences in the workflows.

Confirmation of an order triggers delivery of the goods, and invoicing timing is defined by a setting in each individual order.

Delivery charges can be managed using a grid of tariffs for different carriers.

Other functions

You've been through a brisk, brief overview of the main functional areas of Open ERP. Some of these – a large proportion of the core modules – are treated in more detail in the following chapters.

You can use the menu ***Administration > Modules Management > Modules > Uninstalled Modules*** to find the remaining modules that have been loaded into your installation but not yet installed in your database. Some modules have only minor side-effects to Open ERP (such as `base_iban`), some have quite extensive effects (such as the various charts of accounts), and some make fundamental additions (such as `multi_company`).

But there are now more than three hundred modules available. If you've connected to the Internet, and if your `addons` directory is writable as described at the beginning of this chapter, you can download new modules using the menu ***Administration > Modules Management > Update Modules List***.

A brief description is available for each module, but the most thorough way of understanding their functionality is to install one and try it. So, pausing only to prepare another test database to try it out on, just download and install the modules that appear interesting.

3

Developing a real case from purchase to sale: a complete workflow

3

Developing a real case from purchase to sale: a complete workflow

Summary

- Use case
- Functional needs
- Installing and configuring modules
- Database setup
- Test of a purchase – sale workflow

Keywords

- sale
- purchase
- stock
- workflow

Now that you've discovered some of the many possibilities of Open ERP from a tour of the demonstration database, you'll develop a real case. An empty database provides the starting point for testing a classic workflow from product purchase to sale, completing your guided tour and your familiarization with Open ERP.

A database loaded with demonstration data is very useful for understanding Open ERP's general capabilities. But to explore Open ERP through a lens of your own company's needs you should start with an empty database. You'll work in this chapter on a minimal database containing no demonstration data so that there is no confusion about what you created. And you'll keep the database you've created so that you can build on it throughout the rest of this book.

You'll develop a real case through the following phases:

1 Specify a real case.
2 Describe the functional needs.
3 Configure the system with the essential modules.
4 Carry out the necessary data loading.
5 Test the system with your database.

The case is deliberately extremely simple to provide you with a foundation for the more complex situations you'll handle in reality. Throughout this chapter it's assumed that you're accessing Open ERP through its web interface.

Use case

Configure a system that enables you to:

- buy products from a supplier,
- stock the products in a warehouse,
- sell these products to a customer.

The system should support all aspects of invoicing, payments to suppliers and receipts from customers.

Functional requirements

For working out the business case you'll have to model:

- the suppliers,
- the customers,
- some products,
- inventory for despatch,
- a purchase order,
- a sale order,
- invoices,
- payments.

To test the system you'll need at least one supplier, one customer, one product, a warehouse, a minimal chart of accounts and a bank account.

Database creation

Use the technique outlined in Chapter 1 to create a new database, `openerp_ch03`. This database will be free of data and contain the least possible amount of functionality as a starting point. You'll need to know your super administrator password for this – or you'll have to find somebody who does have it to create this seed database. You won't be able to use the `openerp_ch1` or `openerp_ch2` databases that you might have created so far in this book because they both contain demonstration data.

Start the database creation process from the ***Database Administration*** page by clicking ***Create*** and then completing the following fields on the ***Create Database*** form:

- ***Super administrator password***: by default it's `admin`, if you or your system administrator haven't changed it,
- ***New database name***: `openerp_ch03`,
- ***Load Demonstration Data*** checkbox: `not checked`,
- ***Default Language***: `English`.

Installing and configuring modules

All of the functional needs are provided by core modules from Open ERP:

- product management (the ***product*** module),
- inventory control (the ***stock*** module),
- accounting and finance (the ***account*** module),
- purchase management (the ***purchase*** module),
- sales management (the ***sale*** module).

Connect to the new `openerp_ch03` database as user `admin` with its default password `admin` (you might have to wait a few seconds before the system will allow you to connect if you've only just created it). Since this is the first time you've connected to it you'll have to go through the Setup wizard in steps:

1. ***Select a profile***: select ***Profile*** `Minimal Profile`.
2. ***Define Main Company*** and ***Report Header***: leave everything untouched on this page.
3. ***Summary***: just click the ***Install*** button.
4. ***Installation done***: click ***Ok***.

Use the menu ***Administration > Modules Management > Modules > Uninstalled Modules*** to show the list of all modules that are registered within Open ERP but as yet uninstalled. Then:

1. Enter `product` into the ***Name*** field and click ***Filter*** to list the product module.
2. Click the name `product` in the list to display the product module in form view, rather than the list view that a search displays.
3. Click the ***Install*** button on the product module form.
4. Click the ***Search*** button at the top of the form to toggle back to the list view with search selection fields on it.
5. Search for the sale module then select it, too, as you did with product, to show it in form view.

6 Click the ***Dependencies*** tab to see that you'll automatically be loading the `product`, `stock` and `mrp` modules along with the `sale` module.
7 Return to the ***Module*** tab and then click its ***Install*** button.
8 Click ***Apply Upgrades*** in the toolbar to the right.
9 When the ***System Upgrade*** form appears, review the list of Modules to update – it may be longer than you had expected, and now includes all the modules you need, because the dependencies themselves had their own dependencies.
10 Click ***Start Upgrade***, wait for ***System Upgrade Done*** to be displayed, then click ***Close*** on that form.
11 The main menu now displays all of the menu items that were loaded by the modules you installed.

Database setup

You'll create all the elements in the database that you need to carry out the use case. These are specified in the functional requirements.

Personalizing the Main Company

Start to personalize your database by renaming the ***Main Company*** from its default of `Tiny sprl` to the name of your own company or (in this case) another example company. When you print standard documents such as quotations, orders and invoices you'll find this personalization information used in the document headers and footers.

To do this, click ***Partners > Partners*** and click the name of the only company there, which is `Tiny sprl`. This gives you a read-only view form view of the company, so make it editable by clicking the ***Edit*** button to the upper left of the form.

> **Web client Editable form**
>
> When toggling from the list view to the form view of an item, you can generally click its name in the list view to show a non-editable view or the pencil icon along the right-hand end of the line to open it in an editable view. You can toggle between editable and non-editable once you're in form view.

Change the following:

- ***Name***: `Ambitious Plumbing Enterprises`,
- ***Contact Name***: `George Turnbull`.

and any other fields you like, such as the address and phone numbers, then ***Save***. This adds one Contact to the Partner, which is sufficient for the example.

From the ***Main Menu***, click ***Administration > Configuration > Base > Define Main Company*** and edit the entry there:

- ***Company Name***: `AmbiPlum`,
- ***Partner***: should already show `Ambitious Plumbing Enterprises`,
- ***Report Header***: `Ambitious Plumbing Enterprises`,
- ***Report Footer 1***: `Best Plumbing Services, Great Prices`,

- ***Report Footer 2***: `Ambitious – our Registered Company Details`.

You can leave the currency at its default setting of `EUR` for this example. Or you can change it in the Main Company (***Administration > Configuration > Base > Main Company***) and the two default Pricelists (***Product > Pricelists > Pricelists***) if you feel compelled to do that.

> **ALTERNATIVE Currency**
>
> The examples in this book are in USD and EUR. You would use your main currency, perhaps CAD, CNY, GBP, or IDR, in their place.

Creating partner categories, partners and their contacts

You'll now create a suppliers category and a customers category. Partner categories are useful for organizing groups of partners but have no special behavior that affects partners, so you can assign them as you like. Then you'll define one supplier and one customer, with a contact for each.

To do this use the menu ***Partners > Configuration > Categories > Edit Categories***. Click ***New*** to open a new form for defining ***Partner Categories***. Define the two categories that follow by just entering their ***Category Name*** and saving them:

- `Suppliers`,
- `Customers`.

Then create two partners from the menu ***Partners > Partners***. Click on the ***New*** button to open a blank form and then add the following data for the first partner first:

- ***Name***: `Plumbing Component Suppliers`,
- ***Contact Name***: `Jean Poolley`,
- ***Address Type***: `Default`,
- add `Suppliers` to the ***Categories*** field by selecting it from the Search List,
- then save the partner by clicking the ***Save*** button.

> **NOTE Contact Types**
>
> If you've recorded several contacts for the same partner you can specify which contact is used for various documents by specifying the Address Type.
>
> For example the delivery address can differ from the invoice address for a partner. If the Address Types are correctly assigned, then Open ERP can automatically select the appropriate address during the creation of the document – an invoice is addressed to the contact that's been assigned the Address Type of Invoice, otherwise to the Default address.

For the second partner, proceed just as you did for the first, with the following data:

- ***Name***: `Smith and Offspring`,
- ***Contact Name***: `Stephen Smith`,
- ***Address Type***: `Default`.

Then add `Customers` in the ***Categories*** field. ***Save*** the form. To check your work you can go to the menu ***Partners > Partner Categories*** and click on each category in turn to see the companies in the category.

NOTE Multiple Partner Categories

If this partner was also a supplier then you'd add Suppliers to the categories as well, but there's no need to do so in this example. You can assign a partner to multiple categories at all levels of the hierarchy.

Creating products and their categories

Unlike partner categories and their assigned partners, product categories do have an effect on the products assigned to them – and a product may belong to only one category. Select the menu ***Products > Configuration > Product Categories*** and click ***New*** to get an empty form for defining a product category.

Enter `Radiators` in the ***Name*** field and, watching the ***Product Categories*** form closely, click ***Save***. You'll see that other fields, specifically those in the ***Accounting Properties*** section, have been automatically filled in with values of accounts and journals. These are the values that will affect products – equivalent fields in a product will take on these values if they, too, are blank when their form is saved.

DEFINITION Properties fields

Properties have a rather unusual behavior. They're defined by parameters in the menu ***Administration > Custom > Properties***, and they update fields only when a form is saved, and only when the fields are empty at the time the form is saved. You can manually override any of these properties as you need.

Properties fields are used all over the Open ERP system and particularly extensively in a multi-company environment. There, property fields in a partner form can be populated with different values depending on the user's company.

For example the payment conditions for a partner could differ depending on the company from which it's addressed.

DEFINITION UOM

UOM is an abbreviation for ***Unit of Measure***. Open ERP manages multiple units of measure for each product: you can buy in tons and sell in kgs, for example. The conversion between each category is made automatically (so long as you have set up the conversion rate in the product form first).

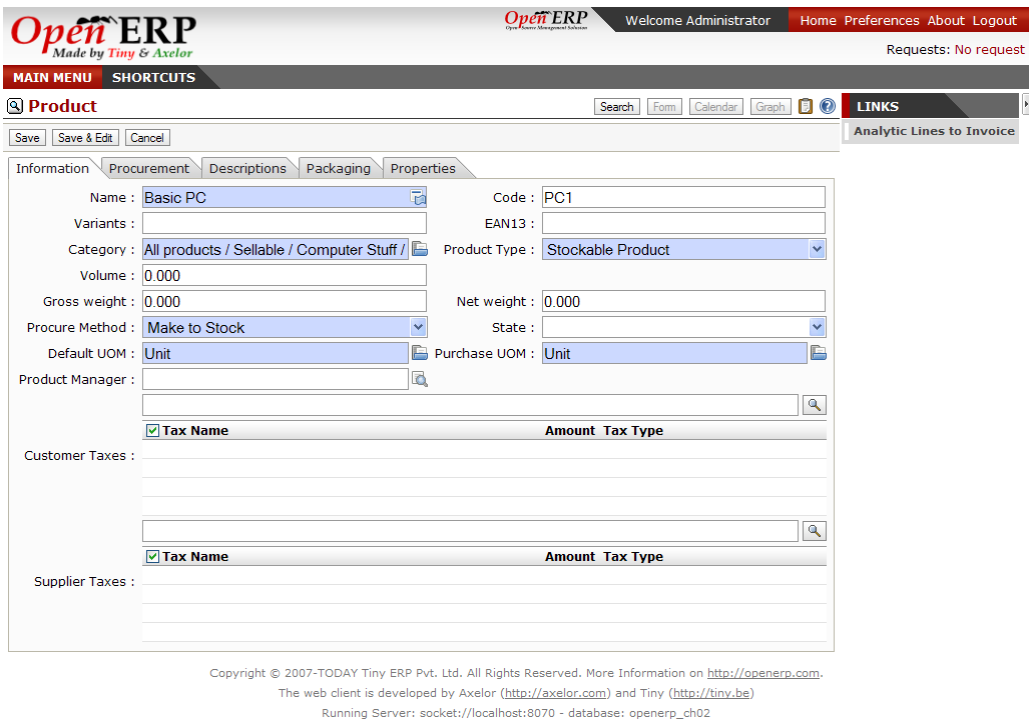
ADVANTAGE Managing double units of measure

The whole management of stock can be carried out with double units of measure (***UOM*** and ***UOS*** – for ***Unit of Sale***). For example an agro-food company can stock and sell ham by piece but buy and value it by weight. There's no direct relationship between these two units so a weighing operation has to be done.

This functionality is crucial in the agro-food industry, and can be equally important in fabrication, chemicals and many other industries.

Now create a new product:

1 Go to the ***Products > Products*** menu and click ***New***,
2 Create a product – type `Titanium Alloy Radiator` in the ***Name*** field,
3 Click the Search icon to the right of the ***Category*** field to select the ***Radiators*** category,
4 The ***Product Type*** field should stay as `Stockable Product`, its default value. The fields ***Procure Method***, ***Default UOM*** and ***Purchase UOM*** should also stay at their default values: in fact every other field remains untouched.



New Product Form

5 Click on the ***Procurement*** tab and enter `57.50` into the ***Cost Price*** field and `132.50` into the ***List Price*** field,
6 Click the ***Properties*** tab, then click ***Save*** and observe that ***Inventory Properties*** have taken on new values (just as the Accounting Properties did in the product category) but ***Accounting Properties*** here remain empty. When product transactions occur, the Income and Expense accounts that you've just defined in the Product Category are used by the Product unless an account is specified here, directly in the product, to override that.
7 Once the product is saved it changes to a non-editable state. If you had entered data incorrectly or left a required field blank, the form would have

stayed editable and you'd need to click from tab to tab to find a field colored red, with an error message below it, that would have to be correctly filled in.

Stock locations

Click ***Inventory Control > Location Structure*** to see the hierarchy of stock locations. These locations have been defined by the minimal default data loaded when the database was created. You'll use this default structure in this example.

1 From the ***Main Menu***, click on ***Inventory Control > Configuration > Locations*** to reach a list view of the locations (not the tree view)
2 Click on the name of a location, such as `Company`, to open a descriptive form view. Each location has a ***Location type***, and a ***Parent Location*** that defines the hierarchical structure. An ***Inventory Account*** can also be assigned to a location.
3 From the ***Main Menu***, click ***Inventory Control > Configuration > Warehouses*** to view a list of warehouses.

> **NOTE Valuation of stock**
>
> If you want real-time stock valuation that tracks stock movements you must assign an account to each stock location. As product items are added to and taken from each location Open ERP generates an account entry for that location defined by the configuration of the product being moved – and a stock valuation based (in the current versions of Open ERP) on either Standard Cost or Average Price.
>
> For example, if you assign an account to the Supplier location you'll be able see the value of stock that you've taken from the supplier. Its contents should be valued in your accounts. Thus it manages inventory on consignment.

A Warehouse contains an input location, a stock location and an output location for sold products. You can associate a warehouse with a partner to give the warehouse an address. That doesn't have to be your own company (although it can be): you can easily specify another partner who may be holding stock on your behalf.

> **ATTENTION Location Structure**
>
> Each warehouse is composed of three locations: ***Input***, ***Output*** and ***Stock***. Your available stock is given by the contents of the ***Stock*** location.
>
> The ***Input*** location can be placed as a child of the ***Stock*** location, which means that when Stock is interrogated for product quantities, it also takes account of the contents of the ***Input*** location. The ***Output*** location must never be placed as a child of ***Stock***, since items in ***Output***, which are packed ready for customer shipment, should not be considered as available for sale elsewhere.

Setting up a chart of accounts

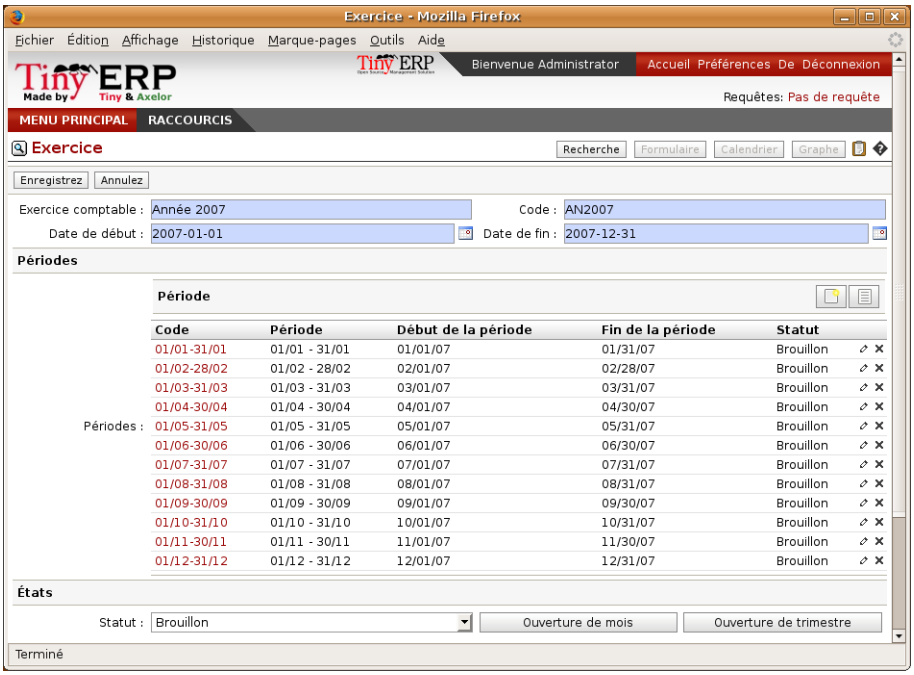
You can set up a chart of accounts during the creation of a database, but for this exercise you'll start with the minimal chart that's built into the core of Tiny ERP (just a handful of required accounts without hierarchy, tax or subtotals).

A number of account charts have been predefined for Open ERP, some of which meet the needs of national authorities (the number of those created for Open ERP is growing as various contributors create and freely publish them). You can take one of those without changing it if it's suitable, or you can take anything as your starting point and design a complete chart of accounts to meet your exact needs, including accounts for inventory, asset depreciation, equity and taxation.

You can also run multiple charts of accounts in parallel – so you can put all of your transaction accounts into several charts, with different arrangements for taxation and depreciation, aggregated differently for various needs.

Before you can use any chart of accounts for anything you need to specify a Fiscal Year. This defines the different time periods available for accounting transactions. To do so:

1 Select ***Financial Management > Configuration > Periods > Fiscal Years*** and click ***New*** to open a blank ***Fiscal Year*** definition form.
2 Give a name to that ***Fiscal Year*** (such as `Financial Year 2008`) and a ***Code*** (`FY2008`), then select the ***Start date*** and ***End date***, which should be a year apart and (for this example) straddle today's date.
3 Then click on one of the buttons ***Create Monthly Periods*** or ***Create 3 Months Periods*** to create an appropriate set of periods for the fiscal year, as shown in the figure below. ***Save*** this.



Defining a fiscal year and the accounting periods within it

Click ***Financial Management > Charts > Charts of Accounts*** and then click ***Open Charts*** on the ***Fiscal Year*** that you've just created to see a hierarchical structure of the accounts. You can click on the expand/collapse icon of the top tree node to show the detail of this minimal chart.

Make a backup of the database

If you know the super-administrator password, make a backup of your database using the procedure described at the very end of Chapter 1. Then restore it to a new database: `testing`.

This operation enables you to test the new configuration on `testing` so that you can be sure everything works as designed. Then if the tests are successful you can make a new database from `openerp_ch03`, perhaps called `production`, for your real work.

From here on, connect to this new `testing` database logged in as `admin` if you can. If you have to make corrections, do that on `openerp_ch03` and copy it to a new `testing` database to continue checking it.

Or you can just continue working with the `openerp_ch03` database to get through this chapter. You can recreate `openerp_ch03` quite quickly if something goes wrong and you can't recover from it but, again, you'd need to know your super-administrator password for that.

Testing a Purchase-Sale workflow

To familiarize yourself with the system workflow you'll test a purchase-sale workflow in two phases.

The first consists of product purchase, which requires the following operations:

1 Place a purchase order with Plumbing Component Suppliers for 10 Titanium Alloy Radiators at a unit price of 60.00.
2 Receive these products at your Goods In.
3 Generate a purchase invoice.
4 Pay your supplier.

Following this, you'll sell some of these products, using this sequence:

1 Receive a sales order for 6 Titanium Alloy Radiators from Smith and Sons, sold at a unit price of 130.00.
2 Despatch the products.
3 Invoice the customer.
4 Receive the payment.

Purchase Order

To place a Purchase Order with your supplier, use the menu ***Purchase Management > Purchase Order*** for a new Purchase Order form.

Complete the following fields:

- ***Warehouse***: `Warehouse`. Although this is not a required field, the selection here automatically fills in the required field ***Delivery Destination*** on the ***Purchase Shippings*** tab.
- ***Partner***: `Plumbing Component Suppliers`.

As you complete the ***Partner*** field, Open ERP automatically completes the ***Address*** field and the ***Price List*** field from information it takes out of the Partner record. Then click on the ***Save Parent and Create New Record*** icon to the right of the ***Order Line*** field. This automatically saves the body of the ***Purchase Order***, and changes to a ***Create New Record*** icon. Click that to open the ***Purchase Order Line*** window.

Enter the following information

- ***Product***: `Titanium Alloy Radiator` - type in part of this name then click the ***Search / Open a resource*** icon at the end of the line to complete it,

When you've selected a product on the product line, Open ERP automatically completes the following fields from information it finds in the Product record:

- ***Product UOM***: the unit of measure for this product,
- ***Description***: the detailed description of the product,
- ***Scheduled date***: based on the product lead time,
- ***Unit price***: the unit price of the product,
- ***Analytic account***: if any account is specified then it will appear on the order line,

- ***Taxes***: applicable taxes defined in the partner, if specified, otherwise in the product, if specified.

You can edit any of these fields to suit the requirements of the purchase order at the time of entry. Change the ***Unit Price*** to `56.00`.

Also enter:

- ***Quantity***: `10`.

Save the order line and close the ***Purchase Order Line*** window by clicking the ***Close*** button. You can then confirm the whole one-line order by clicking ***Save***, which makes the form non-editable. It's now in a state of `Request for Quotation`, so click ***Confirm Purchase Order***, which corresponds to an approval from a manager or from Accounts within your own company and moves the order into `Confirmed` state.

Finally click ***Approved by Supplier*** to indicate the supplier's acknowledgment of the order. The order becomes `Approved`. If you click the ***Purchase Shippings*** tab you'll see the ***Picking List*** that has been created ready for your Goods In department to use.

> **ATTENTION Visibility of a window**
>
> Sometimes a child window, such as the Purchase Order Line window, loses focus and disappears behind the main window. If a window doesn't open as you expect, check that it's not hiding behind the main window: do this by minimizing the main window to your task bar.

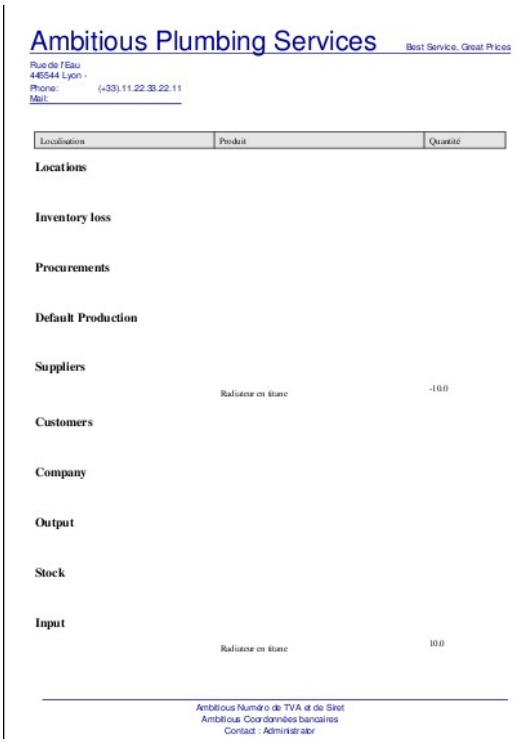
Receiving Goods

After confirming the order you'd wait for the delivery of the products from your supplier. Typically this would be somebody in Stores rather than Purchasing, who would:

1. Open the menu ***Inventory Control > Packing Lists > Getting Goods > Packings to be Received***, using the expand/collapse icon rather than clicking directly on ***Packing Lists***.
2. When the ***Packing list*** window appears, select the name of the entry in the list (`IN:1`) to display the Packing List itself – you'd usually do a search for the supplier name or order number in a list that was larger than this – then click ***Validate*** to load the ***Make Packing*** form.
3. Click ***Make Picking*** to indicate that you're receiving the whole quantity of 10 units.

At this point you've accepted 10 units into your company, in a location defined by the Warehouse that you specified near the top of your Purchase Order.

To check actual stock levels, use the menu ***Inventory Control > Location Structure***, find `Stock` in the hierarchy using the expand/collapse controls to make your way through the tree and click it. That will show everything in the `Stock` location and below it – including ***Real stock*** (the actual quantity recorded in that location and below it) and ***Virtual stock*** (the quantities expected in future when all receipts and despatches have been made) – both `10` in this case.



List of products and their stock levels

Alternatively you could click the top-level `Locations` line to highlight it (not the `Locations` text itself), and then click the ***Print*** button to the top right of the form to test the available different reports (such as ***Lots by Location***). You'll see that you've now got `10` pieces of `Titanium Alloy Radiator` in the location `Input` and `-10` pieces in the location `Suppliers` as shown in the next Figure.

WEB CLIENT Returning to Open ERP after printing PDF reports

When you're using the web client, documents such as this are not part of the standard web page but are generated in PDF format, which you can print or attach to email or save on disk. So you don't get the standard Open ERP navigation links on these pages.

Open ERP is not fully consistent in the display of these pages in version 4.2.2, so the PDF page is not brought up in a new tab or window as it should be (and as it is in other areas of Open ERP), but replaces the standard Open ERP web-format pages.

Once you've finished looking at the PDF document you'll have a strong temptation to just close the window, but that'll completely close Open ERP for you! Instead, click the ***Back*** button in your web browser to return to Open ERP.

ADVANTAGE Traceability in double-entry

Open ERP operates a double-entry stock transfer scheme similar to double-entry accounting. Because of this you can carry out various analyses of stock levels in your warehouse, along with the corresponding levels in virtual locations at your supplier. Supplier locations show negative levels once you've received goods in your company, as you can see in the Figure.

Control of purchase invoices

When you've received an invoice from your supplier (which would usually be your Accounts department) go to the menu ***Financial Management > Invoices > Supplier Invoice > Draft Supplier Invoices*** to open a list of supplier invoices waiting for receipt (you'll have to use the expand/collapse icon on ***Supplier Invoice*** rather than click the text, which would create a new Invoice). These invoices enable your Accounts Department to match the the price and quantities ordered against the price and quantities on the supplier's invoice – it's not uncommon to receive an invoice showing details more favourable to the supplier than those agreed at the time of purchase.

In this example, you created an invoice automatically when you confirmed the supplier's Purchase Order. That's because the ***Invoicing Control*** field on the order was set to `On Order` (the default option). Other options enable you to create invoices at the time of receiving goods or manually. The initial state of an invoice is `Draft`.

Now click the invoice for your order `PO/001` to display its contents. You can compare the goods that you've recorded there with the invoice received from your supplier. If there's a difference it's possible to change the order lines to, for example, add a delivery charge. Click ***Validate*** to confirm the invoice and put it into the `Open` state.

Accounting entries are generated automatically once the invoice is validated. To see the effects on your chart of accounts, use the menu ***Financial Management > Charts > Chart of Accounts***.

Paying the supplier

Select the menu ***Financial Management > Invoices > Supplier Invoices > Open Supplier Invoices*** to obtain a list of supplier invoices that haven't yet been paid. Click the ***Edit*** (pencil) icon to the right end of the line for the invoice derived from `PO/001` to open the invoice form in editable mode. In practice you'd search for the invoice by order number or, more generally, for invoices nearing their payment date.

Click ***Pay Invoice*** in the toolbar to the right of the form, which opens a Window with a description of the payment. Select `Bank Journal` in the ***Journal*** field. Then click ***Pay Invoice*** to the top left of the form, which carries out the payment action within Open ERP and returns you to the main menu.

COMMENT Payment of an invoice

The method described here is for companies that don't use their accounting system to pay bills – just to record them. If you're using the accounting module fully other, more efficient, methods let you manage payments, such as entering account statements,

reconciling paperwork, using tools for preparing payments, interfacing with banks.

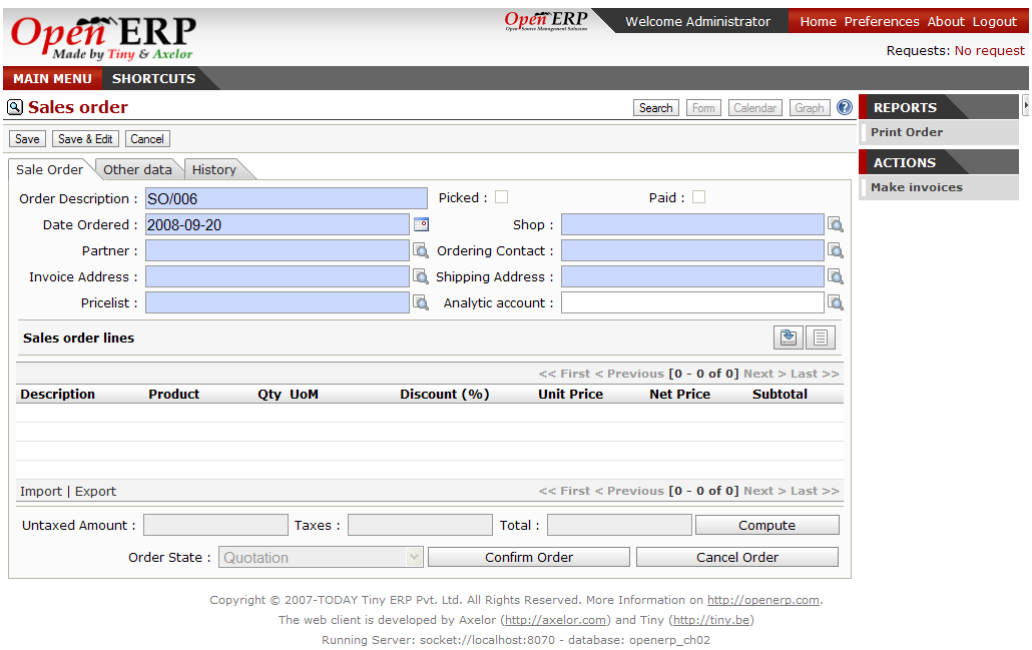
You can monitor the accounting impact of paying the invoice through the chart of accounts available from the menu ***Financial Management > Charts > Chart of Accounts***. Open ERP automatically creates accounting entries from the payment and can reconcile the payment to the invoice.

From Sales Proposal to Sales Order

In Open ERP, sales proposals and sales orders are managed using documents that are based on the same common functionality as purchase orders, so you'll recognize the following documents in general but notice changes to their detail and to their workflows. To create a new sales proposal, use the menu ***Sales Management > Sales Order*** which creates a new order in a state of `Quotation`, then:

1 Select `Default Shop` in the ***Shop*** field. The shop is linked to a warehouse, which defines the location that you'll use to despatch goods from.

2 Select the ***Partner*** `Smith and Sons`. This has the effect of automatically completing several other fields: ***Ordering Contact***, ***Invoice Address***, ***Shipping Address*** and the ***Pricelist*** `Default Sale Pricelist`. They're all only defaults so these fields can be modified as you need.



Entering a customer order

3 Click the ***Save Parent and Create new record*** icon to the right of the ***Sales Order Lines*** field. It saves the main order form and becomes a new ***Create new record*** icon. Click that to open a ***Sales Order Lines*** window.
4 Select the product `Titanium Alloy Radiator`. Although the ***Product*** field isn't itself required, it's used by Open ERP to select the specific product so that several other fields can be automatically completed on the order line of the proposal, such as: ***Description***, ***Product UOM***, ***Unit Price***, ***Delivery Delay*** and ***Taxes***.
5 Change the ***Quantity*** to `6` and the ***Unit Price*** to `130.00`. Then click ***Save*** and the line appears on the quotation form. A blank order line form reappears so that you can enter another line, but it's enough now just to click ***Close*** to return to the order form.
6 On the ***Other data*** tab of this Sales Order select a ***Shipping Policy*** of `Automatic Invoice after Delivery` from the dropdown menu list.
7 Return to the first tab ***Sale Order*** and validate the document by clicking ***Confirm Order***, which calculates prices and the changes the order's state from `Quotation` to `In Progress`. If you were in negotiation with the prospective customer you'd keep clicking ***Compute*** and ***Save***, keeping the document in `Quotation` state for as long as necessary.
8 In the last tab of the order, ***History***, you can see the ***Picking List*** that's been created and you'll be able to see any invoices that relate to this order when they're generated.

From the ***Main Menu*** click ***Products > Products*** to display a list of products: just the one, `Titanium Alloy Radiator`, currently exists in this example. Its ***Real Stock*** still shows `10.00` but its ***Virtual Stock*** now shows `4.00` to reflect the new future requirement of 6 units for despatch.

Preparing goods for despatch to customers

The stores manager selects the menu ***Inventory Control > Packing Lists > Sending Goods > Confirmed Packings Awaiting Assignation*** to get a list of orders to despatch. In this example there's only one, `OUT:1`, so click the text to open the ***Picking List***.

> **ADVICE Calculating Requirements**
>
> At the moment your Sales Order is waiting for products to be reserved to fulfil it. A stock reservation activity takes place periodically to calculate the needs, which also takes customer priorities into account. The calculation can be started from the menu ***Production > Calculate Requirements***. Running this automatically reserves products.
>
> If you don't want to have to work out your stock needs but have a lean workflow you can install the mrp_jit (Just In Time) module.

Although Open ERP has automatically been made aware that items on this order will need to be despatched, it has not yet assigned any specific items from any location to fulfil it. It's ready to move `6.00 Titanium Alloy Radiators` from the ***Stock*** location to the ***Output*** location (which were defined by the Sale Shop in the Sales Order), so start this process by clicking ***Assign***. The ***Move*** line has now changed from the `Confirmed` state to the `Assigned` state.

Create a ***Packing List*** document by clicking the ***Packing List*** button in the ***Reports*** section of the toolbar to the right of the form, and also a ***Despatch Note*** by clicking the ***Delivery Report*** button there. These are both created in a new window or tab of your browser so they can be printed off and then closed.

Now click ***Validate*** on the ***Packing List*** to mark the move that you'd be making physically in your Stores. A ***Make Packing*** form appears enabling you to transfer `6` units (or another number if you choose) between locations and pack them into a package in the process. Click ***Make Packing*** to the top left of the form to do the transfer. The ***Move*** line has now changed state to `Done`.

The goods are now in your Output Bay, which had been defined by default in Open ERP as ***Output***, as a single package with a ***Lot Number*** of `OUT:1`.

To register when a carrier picks up the package, use the menu ***Inventory Control > Delivery Order > Delivery Orders to Process***. Select the appropriate line `OUT:1` to open the ***Stock Move*** form, then click ***Move Lot***. Its state changes to `Moved`. Packing is defined by Sales Orders so if you pack fewer packages than are on order Open ERP automatically manages the remainder for future delivery.

To analyze stock movements that you've made during these operations use the following steps:

1 Select menu ***Inventory Control > Locations Structure***.
2 Select the first line by clicking somewhere along it (but don't click on the `Locations` text itself) then click on the ***Print*** icon above the list further over to the right.
3 Select the report ***Lots by location*** and click the ***OK*** button to get a detailed report of Stocks for each location. You should see the following data:
   - `-10` in the ***Suppliers*** location,
   - `6` in the ***Customers*** location,
   - `4` in your company's ***Input*** location.

> **NOTE Location Hierarchy**
>
> The 10 Titanium Alloy Radiators can be found in the Input location after they've been received, instead of the location Stock. But they're still considered as being part of stock because Input is a child location of Stock.
>
> If you want to put a Quality Control station at Goods In, all you need to do is put Input up to the same level as Stock. Then you'd manually move items from Input to Stock when they pass your Goods In checks.

Invoicing Goods

Use the menu ***Financial Management > Invoices > Customer Invoice > Draft Customer Invoices*** to open a list of invoices generated by Open ERP. These are in the `Draft` state, which means that they don't yet have any presence in the accounting system. You'll find a draft invoice has been created for the order `SO/001` once you have despatched the goods because you'd selected `Automatic Invoice after Delivery`.

Once you confirm an invoice, Open ERP assigns it a unique number, and all of the corresponding accounting entries are generated. So open the invoice and click ***Create*** to do that and move the invoice into an `Open` state.

You can send your customer the invoice for payment at this stage. Click ***Invoices*** from the ***Reports*** section of the toolbar at the right of the form to get a PDF document that can be printed or emailed to the customer.

You can also attach the PDF document to the Open ERP invoice record. Save the PDF somewhere convenient on your PC (such as on your desktop). Then click the ***Add an attachment to this resource*** button to the top right of the invoice form (it looks like a clipboard). Browse to the file you just saved (`record.pdf` if you didn't change its name) from the ***Attachments*** dialog box that pops up, and ***Close*** the dialog box. This gives you a permanent non-editable record of your invoice on the Open ERP system.

Review your chart of accounts to check the impact of these activities on your accounting. You'll see the new revenue line from the invoice.

Customer Payment

Registering an invoice payment by a customer is essentially the same as the process of paying a supplier. From the menu ***Financial Management > Invoices > Customer Invoice > Open Customer Invoices***, click the name of the invoice that you want to mark as paid:

1. Use the ***Pay Invoice*** button in the ***Action*** section of the toolbar at the right to open a window that enables you to register the payment.
2. Select the ***Journal*** `Bank Journal` and click ***Pay Invoice***. The invoice is then marked as paid, and you're returned to the ***Main Menu***.

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Rue de l'Eau
445544 Lyon -
Phone: (+33).11.22.33.22.11
Mail:

Dupont et Fils
Dupont Stéphane

Invoice 2008/001

Document:SO/003
Invoice Date: 2008-01-03
Customer Ref: /

Description	Taxes	Quantity	Unit Price	Disc. (%)	Price
Radiateur en titane		6.00 Unit	130.00		780.00 EUR

Tax	Base	Amount

Total (excl. taxes):	780.00 EUR
Taxes:	0.00 EUR
Total (incl. taxes):	780.00 EUR

A screen showing the invoice to be paid

Check your Chart of Accounts as before to see that you now have a healthy bank balance in the `Petty Cash` account.

Part II

Managing Customer Relationships

Part II

Managing Customer Relationships

The Sales department is the engine of your whole company. Sales success drives staff motivation and your company's general dynamism, which in turn enables you to keep innovating and lay the foundations for future success.

The key to continued Sales success is effective Customer Relationship Management (most often known as CRM). Open ERP's CRM capabilities are flexible and highly developed to assist you in managing all aspects of both supplier and customer relationships. Analytic tools help you understand your performance drivers, and the automation of data and processes drives new levels of efficiency.

Open ERP can share information through its interfaces to the most common office applications, minimizing disruption to your operations when you first install it. Your staff can build on their previous productivity by continuing to use their email and office systems, now connected to Open ERP, transferring to the Open ERP interface only if they need to.

4

Customer Relationship Management

4

Customer Relationship Management

Summary

- Partners
- Case management
- Email gateway
- Profiling

Keywords

- SRM, CRM
- quality
- profiling
- segmentation
- case
- support
- ISO 9001

It's often said that the customer is king. In the business world you'd ideally treat all your customers as royalty, at the center of attention. Open ERP's CRM module is designed to make this aim a reality, helping employees of the business understand their customers' needs better, and automating their communication efforts.

TERMINOLOGY CRM & SRM

CRM is the abbreviation for Customer Relationship Management, and SRM is Supplier Relationship Management.

If you want to focus on your customers, you need tools to make that focus easy. Tools that will capture all the knowledge you have available, tools that will help you analyze what you know, and tools that will make it easy to use all of that knowledge and analysis.

A crucial advantage that Open ERP gives you over the more specialist CRM applications is that Open ERP knows more about your customers and your ability to supply them because it's handling all of your accounting, sales, purchases, manufacturing and fulfillment as well as linking to all of your internal staff.

Open ERP's CRM module uses that information and offers several significant features that enable you and your staff to monitor and control your supplier and customer relationships effectively, such as delegating issues to the most appropriate people, keeping a history of communications and events, qualifying prospects and detecting problems.

It also uses several statistical tools that can analyze relationships quantitatively – your customer service performance and the quality of your suppliers, for example. Using performance analysis, you can easily put a policy of real continuous improvement in place by developing an automatic rules-based system in Open ERP.

To minimize re-typing work, Open ERP provides an email gateway that links your emails to the databases. This is a significant feature – many of your staff will then use Open ERP automatically through email without ever logging into it themselves and having to learn a new system.

Finally, at the end of this chapter you'll see an efficient method of qualifying prospects or customers that enables you to offer a service tailored to the potential value of different prospects.

Open ERP preparation

You'll need two databases for this chapter:

- `openerp_ch04X`, which should be a restored copy of `openerp_ch02`, the database you created through Chapter 2. It's referenced throughout the main body of this chapter because it contains demonstration data that illustrates the points made in the chapter.
- `openerp_ch04`, which should be a restored copy of `openerp_ch03`, the database you created through Chapter 3. If you follow the steps in this chapter you can extend this database.

To be able to backup and restore these databases you'll need to know your super-administrator password.

You'll also need your system's `addons` directory to be writable, since you'll load new modules into it later in the chapter – they're not available in the core 4.2.2 release of Open ERP.

And you'll need access to a system administrator for your server system if you want to install the `fetchmail` system software that's mentioned later in this chapter.

Once you've created `openerp_ch04`, add a new group – `support`, and four new users – `General`, `Sales`, `Support`, and `Senior Support` (the former two should be put in group `user`, and the latter two in `support`). Then also install the `crm` module that exists in the Open ERP core installation (but has not yet been installed into this database). You'll need only to know your database's `admin` user details to do this.

Partners

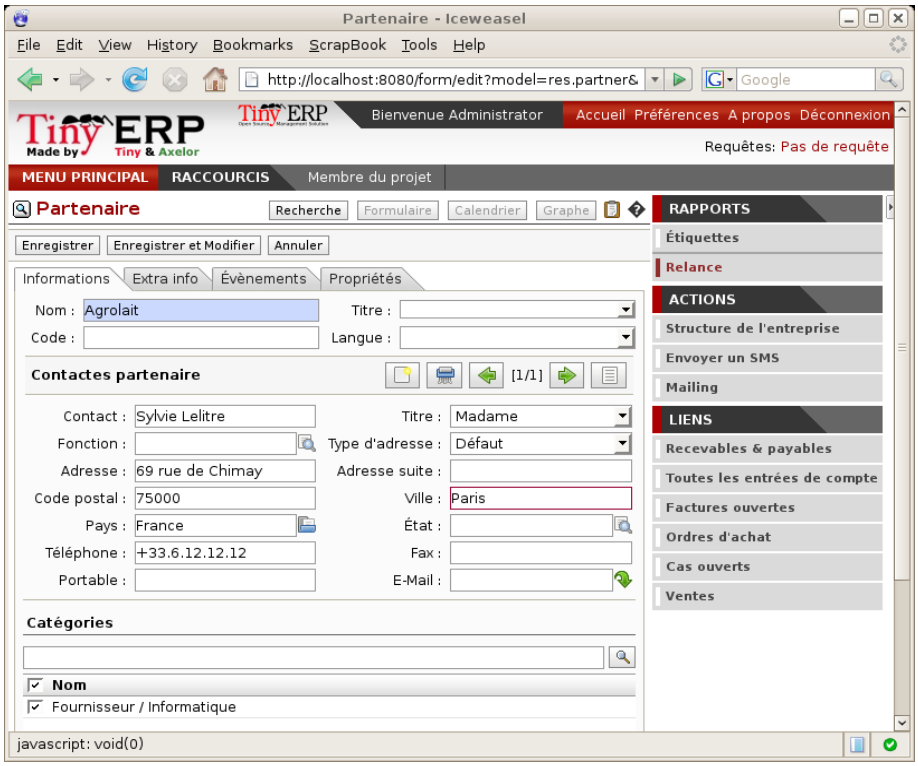
In Open ERP, a partner represents all the entities that you can do business with. Some possible different types of partners are:

- suppliers,
- manufacturers,
- customers,
- clients,
- employees,
- prospects.

The concept of a partner here is much more flexible than in many other management applications because a partner can correspond to one type or a combination of several of these types. This avoids double data-entry and provides greater flexibility in the features available.

So a partner can be both your supplier and your customer at the same time. This feature is particularly important when you have subsidiaries or franchises since transactions between the parent and its subsidiaries in these cases will generally be two-way.

To get a list of partners using demonstration data, use the menu ***Partners > Partners*** (database `openerp_ch04X` has more data preloaded, while `openerp_ch04` has only the data that you've put into it - both can show the principles).



The partner form

To the right of the partner form you'll find all of the actions, reports and shortcuts available to the selected partner. This enables you to quickly send an SMS message, for example, or review a partner's order history, or print a reminder letter.

> **NOTE Send an SMS message**
>
> To send an SMS message from standard Open ERP you'll have to place an order with the bulk SMS gateway operator Clickatell™ http://clickatell.com.
>
> You'll then receive an API number, a login and a password which you can use in Open ERP to send SMS messages to your partners.
>
> Or you can just create a new module based on the inbuilt SMS module, targeted at any of the other SMS service suppliers, and use that instead.

To send an SMS message to a partner or a selection of several partners, first select the partners then click the ***Send SMS*** Action icon.

To create a company in Open ERP (that is – a new partner) you should at a minimum enter the company's ***Name*** in the partner form.

Contacts

You can have several contacts for one partner. Contacts represent company employees that you're in contact with, along with their address details. For each address you can indicate their type (`Default`, `Invoice`, `Delivery`, `Contact` or `Other`). Based on this, Open ERP can supply an address that matches the contact's function when generating documents at various stages through an Order process.

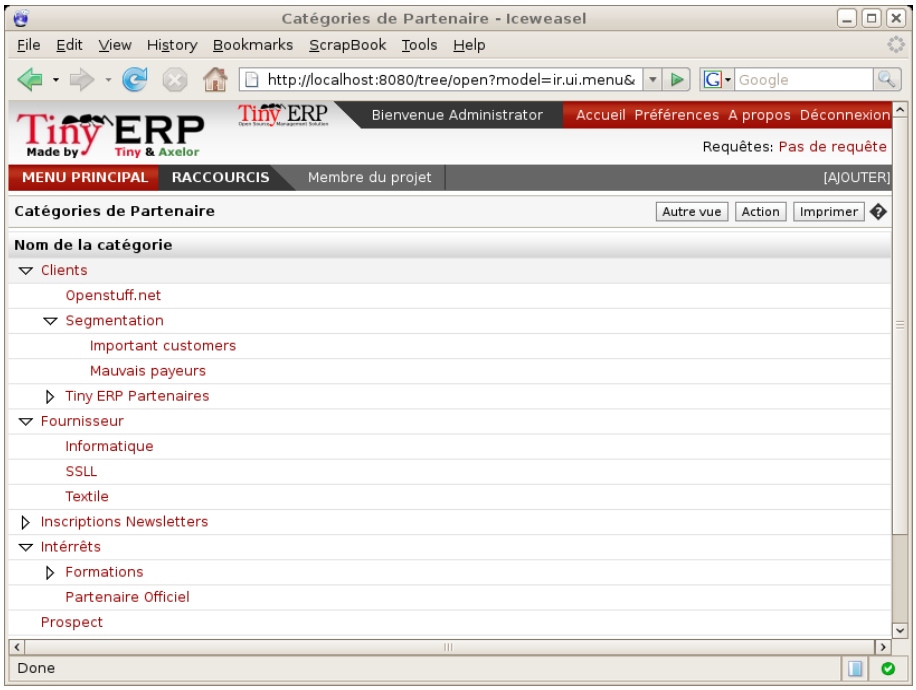
Contacts can be entered into the first (***General***) tab of the ***Partners*** form, or you can get direct access to the list of addresses through the ***Partners > Partner Contacts*** menu.

You can search for a subset of Partners and Contacts using their company ***Name*** or ***Contact*** name or part of the address, or any of the other search fields in either the ***Basic Search*** or the ***Advanced Search*** tab.

> **NOTE Independent partners or physical people**
>
> If you want to represent a physical person rather than a company, in Open ERP, that person's name can be typed directly into the ***Name*** field on the ***Partner*** form. In this case don't put in any ***Contact Name***.

Partner Categories

Open ERP uses hierarchical categories to organize all of its partners. To reach the list of available partner categories, use the menu ***Partners > Partners by Category***.



Example partner category structure

Double-click one of the categories in the partner category structure to get a list of the partners in that category. If you click on a category that has sub-categories you'll get a list of all of the partners in the main category and in all of its subcategories.

Because categories are structured in a hierarchical manner, you can apply an action at any level of the structure: a marketing promotion activity, for example, can be applied either to all customers, or selectively only to customers in one category and its subcategories.

The tree structure is also very useful when you're running the various statistical reports. You can structure reports at any level of the hierarchy using this partner segmentation.

In the following sections you'll see how to assign partners to categories manually (perhaps for a newsletter subscription or as a hot prospect), or automatically using segmentation rules.

Use the menu ***Partners > Configuration > Categories > Edit Categories*** to define a new category.

To try Open ERP's partner capabilities described here for yourself, log into the `openerp_ch04` database as `admin/admin` then click ***Partners > Configuration > Categories > Edit Categories*** and create a new category of `Small Suppliers` whose parent is `Suppliers`. Then create a new ***Partner*** whose ***Name*** is `Susan Trent` and category is `Small Suppliers`.

Click ***Partners > Partners by Category*** and then click ***Suppliers > Small Suppliers*** to find just `Susan Trent`. Do this again but now click the ***Suppliers*** category in ***Partners by Category*** and you'll find that both `Plumbing Component Suppliers` and `Susan Trent` are in the higher-level category: `Susan Trent` is there because she's in a child category.

Add new contact `Graham Strong` to `Plumbing Component Suppliers`. Graham's ***Address Type*** is `Invoice`. Click ***Partners > Partner Contacts*** and see that both Susan and Graham appear on that list.

Case management

The following sections describe the steps you might use to implement an effective customer relationship management policy. The policy is implemented by basing new types of case on the built-in Open ERP case handling system.

Definition Case

Case is a generic term that refers to a discussion with a partner about a specific subject. This subject could be in any category – the monitoring of responses to a job advert, perhaps, or a purchase or sales order, or an after-sales quality problem.

A case is used for following the history of the messages on a topic and for automating some operations in response to certain conditions. Interfaces are available for OpenOffice.org and for email such as Microsoft Outlook Express and Microsoft Outlook, so that you can make productive use of the case system from your existing tools.

Case statistics generated by the system can be used by your managers to improve their handling of supplier and customer interactions.

CRM configuration

Case management is a generic system that can be configured to your more precise needs. You'll develop three case types here, to see how to build the following systems:

1 A system to manage business opportunities.
2 A system for managing support contracts on two levels.
3 A system for managing supplier quality.

Sections

To handle each of these case types in a different way, you must create different sections in Open ERP using the menu ***CRM & SRM > Configuration > Case > Sections***. Do this as user `admin` in database `openerp_ch04` to try it for yourself.

You'll define the following four sections:

- Sales
- Support Level 2
  - Support Level 1

- Quality.

Put the name in the field ***Case Section***. You construct a tree structure for sections is constructed using the ***Parent Section*** field in the Section form. So here you'd say that `Support Level 2` is the parent of `Support Level 1`. Open ERP doesn't restrict the order you use to define these two – you can save the parent while defining the child (try it by starting with `Support Level 1`).

A manager can then be assigned to each section (from the list of Open ERP system users), and an email address can optionally be added. Cases in this section are then automatically connected to this email address – case messages are emailed out automatically from this address and emails to this address are automatically logged in this section of the CRM system. This functionality is based on the email gateway referred to in detail further on in this chapter.

Click the menu ***CRM & SRM > Cases > Cases by Section*** to get the sections in a hierarchical list, then click a section name to list the cases that have been assigned to that section.

> **NOTE Cases by Section – with data**
>
> Using database `openerp_04X` (which has a substantial amount of data in it), click the menu ***CRM & SRM > Cases > Cases by Section*** to get the sections in a hierarchical list, then click a section name, such as `Helpdesk and Support`, to list the cases that have been assigned to that section.

Categories

Once you've defined the different sections you can create Categories, which are used to differentiate the cases in a section. You create categories using the menu ***CRM & SRM > Configuration > Cases > Categories***. Create the following in `database openerp_ch04`.

Categories assigned to the different sections

Category	Section
Installation Requests	Sales
Potential Distributor	Sales
Interest in Training	Sales
Fault Fix	Support Level 1
Functional Problem	Support Level 1
Corrective Actions	Quality
Preventative Actions	Quality

Menu

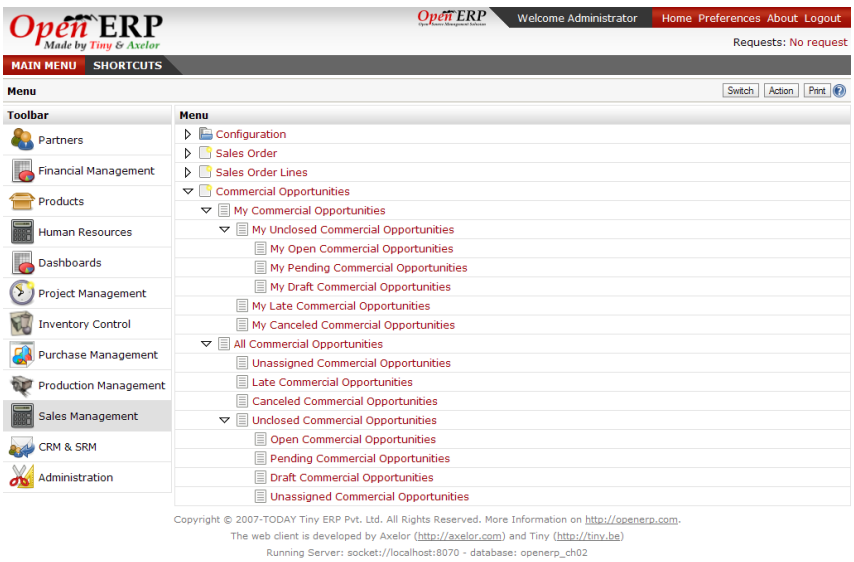
Once the sections and the categories are defined you can generate some menus to make it easier to use these cases. In database `openerp_ch04`, select the menu ***CRM & SRM > Configuration > Create Menus for a New Section***.

The procedure is to create the name of the new menu in ***Menu base name***, select the name of a suitable ***Parent menu*** for the menu and the ***Case Section*** name, then click ***Create menu Entries***. Following this procedure, create the following menus:

Example of creating menus that make it easier to use cases

Menu base name	Case Section	Parent menu
Business Opportunities	Sales	Sales Management
Support L1	Support Level 1	CRM & SRM
Support L2	Support Level 2	CRM & SRM
Quality Problems	Quality	Purchase Management

Each time you run this utility (that is, for each line in the table above), Open ERP generates a menu structure like the following figure (here for the Business Opportunities menu).



Business Opportunities menu automatically generated

A STEP FURTHER Case sections from version 4.3 onwards

From version 4.3 of Open ERP you'll also be able to select the view mode you want when the menu is opened to display the cases for each section: commercial, helpdesk, support request, etc.

Your selection of view determines the type of form that opens when showing a case in each section. So the form following a support request case could differ from the form for a business opportunity.

If you're working in a different language from the default, you can define the labels in that language after you've created the new menus.

NOTE Personalizing menus

You can rename menus if you don't like the way they've been generated by the system. To do this, select the menu line by single-clicking on the line (but not on the menu text itself) and then clicking the Switch icon.

You'll see a form view of the menu definition. If it's in edit mode you can change its name and position in the hierarchy, and you can select a different icon for it. You can also choose a different action for when the menu is clicked. If you've saved or canceled the menu form so that it's not in edit mode you can duplicate it or delete it completely. Duplicating it can sometimes be helpful, placing a copy somewhere else in the menu hierarchy and perhaps making it accessible to different groups of users.

Using cases

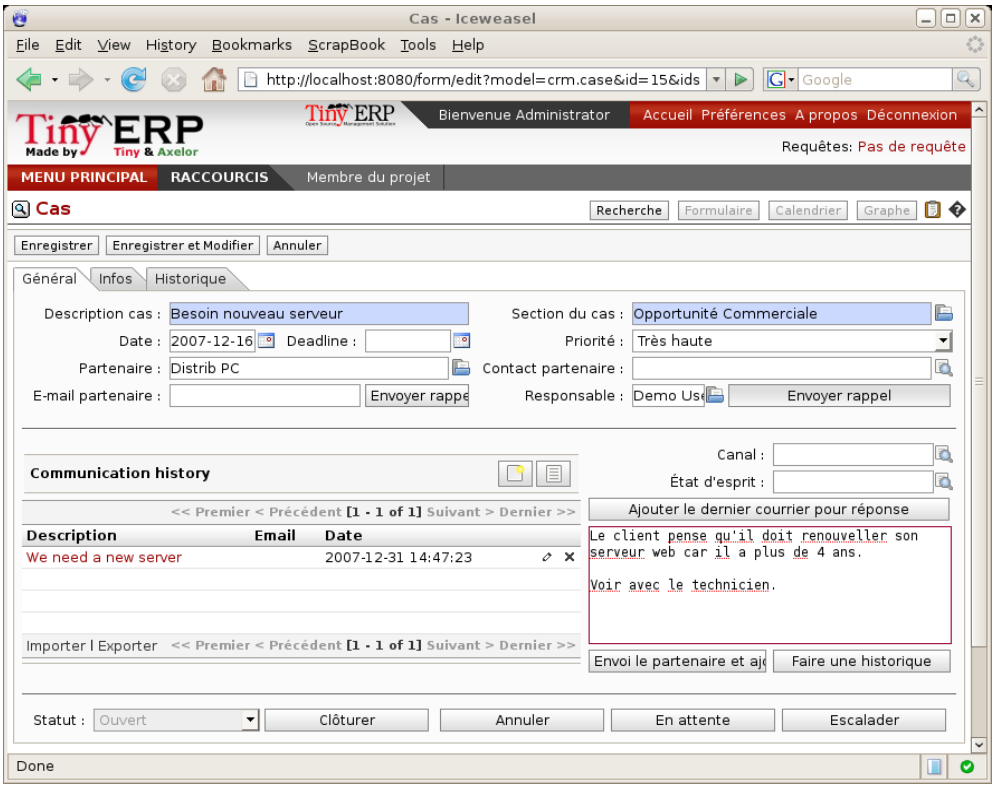
Although you've created special menu trees for each of the types of case you defined, you can continue using the generic case system reached through ***CRM & SRM > Cases***. The new case types are just versions of the generic case.

ADVANTAGE transferability of cases

It's quite useful to base the whole management of customer relationships on a generic system, as Open ERP does. Since each section is just a specialization of the generic system you can transfer requests from one section to another, and this means that you don't lose cases in the system as you delegate work to other staff in your company.

For example you can imagine a support request becoming a business opportunity. Or an after-sales service request becoming a supplier quality issue where a fault is found in a purchased product.

You can also track items across the whole company.



An entry following a business opportunity

To enter a new business opportunity, you can use the menu that you've just created: ***Sales Management > Business Opportunities***. Or you could have used the generic menus ***CRM & SRM > Cases > Cases by section***, or ***CRM & SRM > Cases > All cases***.

Create a case in database `openerp_ch04` from ***Sales Management > Business Opportunities*** by entering information about the request, namely:

- a ***Description*** of the case,
- its ***Section*** will already be completed with `Sales`,
- a ***Priority***,
- the ***Partner***,
- the ***Partner Contact*** (which will be completed automatically when the Partner is filled in but can be overwritten),
- the ***Partner Email*** address (which will be completed from the Partner Contact's email address but can be overwritten),
- the person in your own company who will be the ***User Responsible*** for the case.

ADVANTAGE The email gateway

You'll see later in this chapter that cases can be generated automatically from emails. If the email gateway is configured properly you'll no longer have to enter cases manually through the menu system – they'll just be created from incoming emails.

A case starts in the `Draft` state once it's been created. You can then open it to indicate that you're working on it by clicking the ***Open*** button.

To enter text about the request or about actions taken to satisfy it, type an entry in free text. To save the history of your comments, click ***Historize***. If you click ***Send Partner and Historize*** the partner will also receive a copy of your comment as you save it.

While the case is open you can click ***Close*** if it's been completed or ***Cancel*** if it's to go no further. If you want the case to wait for a response from a partner click ***Pending***.

Add some text for this example case in `openerp_ch04`, then close it.

If you've organized the sections in a hierarchical structure you can click on ***Escalate***. The case then escalates into the parent section. You can't do that with the Business Opportunity that you just defined, which is single-level but you could with a Support L1 case. For example if a developer on level 1 can't handle a customer problem then she can escalate the request to level 2 where it can be handled by a more experienced user.

METHOD Assigning a case

Two approaches are available to you for assigning a case to a suitable manager. Either any case can be assigned by the user who creates the original case, or this field can be left blank. You can then review the list of unassigned cases and pick one up and assign it to yourself.

You can also imagine a mixed method: all cases arrive unassigned and a user is responsible for the division of work to the relevant section.

You can look up the history of comments and actions on the request at any time by looking at the case ***History***, which is in its own tab.

Users can create their own shortcuts from menus such as ***My Support Requests*** and ***My Business Opportunities*** to quickly list cases that they're personally responsible for.

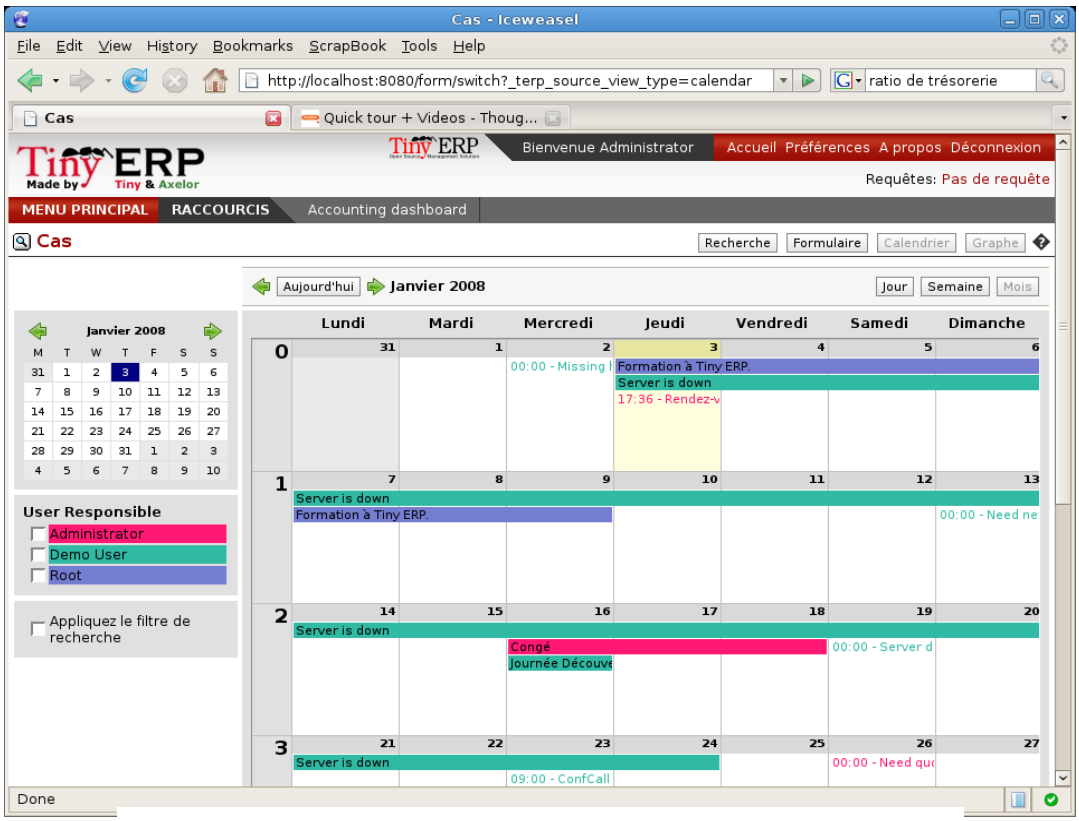
Generating calendars

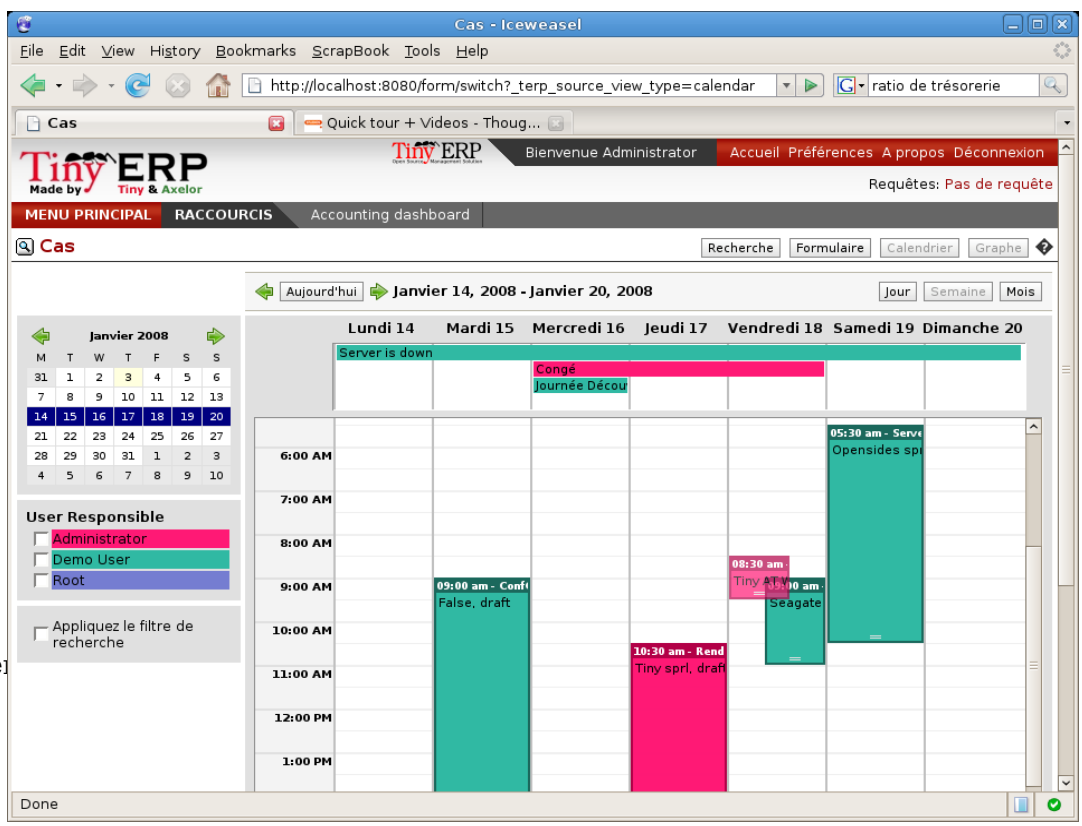
The Open ERP web client can display any type of resource in the form of a timetable. From version 4.3.1 you can generate calendar views for each of your cases as you create menus for those cases.

So if you want to implement a shared calendar for your calendar in Open ERP all you need to do is:

1 Create a section `Meeting Calendar`.
2 Create menus for this section while specifying that you want a calendar view from ***CRM & SRM > Configuration > Create Menus for a New Section***.

You'll get menus enabling you to manage calendars for each employee, and you'll also get a shared calendar for the company. This calendar view is totally dynamic. You can move an event or change its duration just using your mouse.





Weekly view of the meeting calendar for cases

You can change the view and return to the list view, forms or graphs by using the buttons at the top right. Open ERP's usual search tools and filters enable you to filter the events displayed in the calendar or, for example, to display the calendar for only some employees at a time.

ADVANTAGE The generic calendar

Unlike traditional CRM software, Open ERP's calendar view is not limited to displaying appointments. It's available for any type of resource.

So in addition to the cases handled here, you could obtain calendars of tasks, deliveries, manufacturing orders, sales or personal leave.

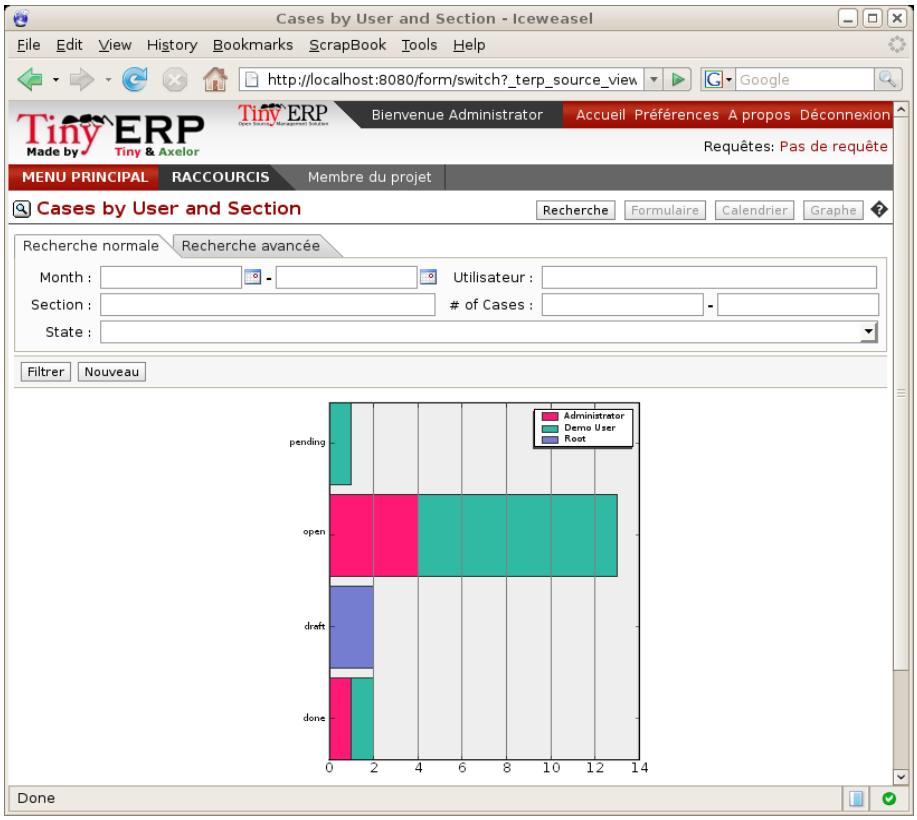
This view is very useful for planning or to get a global overview of a list of dated elements.

Analyzing performance

Since all of your customer communications are integrated into the Open ERP system, you can analyses the performance of your teams in many ways.

Open ERP has a module that helps handle this – `report_crm`. It's not part of the core Open ERP so you must first download it to your desktop from Open ERP's modules repository, then into your server using ***Administration > Modules Management > Import New Module***. Then, for both databases `openerp_04X` and `openerp_ch04`, install it into the database.

Once you've installed it you can use menu ***CRM & SRM > Reporting*** on database `openerp_04X` (which has plenty of data already in it) to create different reports.



Analyzing the performance of your support team

If you want to analyze the performance of your service and support group, for example, use the graph from ***CRM & SRM > Reporting > All Months > Cases by User and Section***. Click the menu to obtain a list view, then click the ***Graph*** button to the top right of the list. The system shows you statistics per user and it's possible to filter on each section and use other criteria for searching. For example, you can type in a date range, click ***Filter***, and see the graph change to reflect the new data.

By default, the system provides a list containing the following information for each month, user and section, and an indication of the state of each set of information:

- ***number of cases***,
- ***average delay for closing*** the request,
- ***estimated revenue*** for a business opportunity,
- ***estimated cost***,
- estimate revenue multiplied by the probability of success, to give you an ***estimated weighted revenue*** figure.

NOTE Navigating through the statistics

You can obtain more information about a user or a case section from these reports, drilling down into the data displayed.

In the web client you click the appropriate text string on one of the lines (such as Demo User or Helpdesk and Support) to open a form for it, and then click one of the buttons in the Action toolbar to the right of the User or Section form that is displayed.

In the GTK client you'd right-click over the text instead – this brings up a context menu with the same options as the web client would give you.

In version 4.3.1 and beyond you'll be able to specify that the graph view, say, appears by default so that you can consistently present the information more visually.

Automating actions using rules

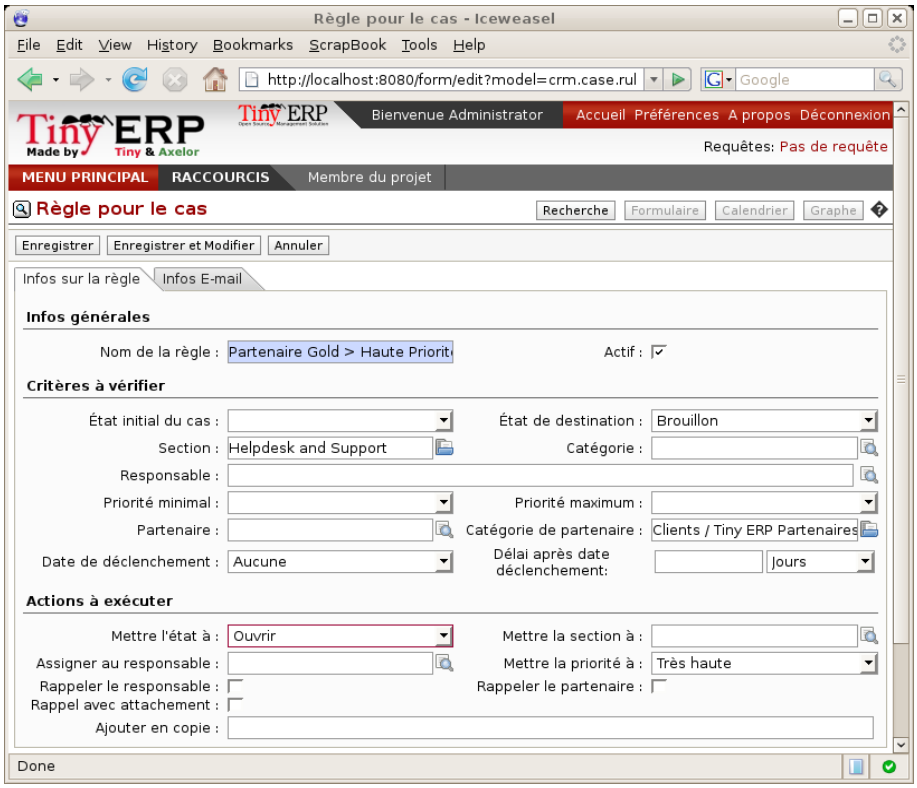
Analyzing figures gives you a better basis for managing all of your services and customer and supplier relationships. But you can do more than just display the figures graphically from time to time.

If the performance of a section, a user or a category of a case is beginning to cause concern then you can use Open ERP's rules system to monitor the situation more closely. Rules enable you to automatically trigger actions depending on criteria you define for each case. They provide a good way of implementing a proper continuous improvement policy for your customer relations and quality of service.

Using these rules you could:

- automatically send emails to the client during different phases of a support request, to keep the client up to date with progress,
- assign the case to another person if the the case manager is on holiday,
- send a reminder to the supplier if their response is delayed too long,
- always mark a case as urgent if it's from a major client,
- transfer the case to technical services if the request is about a technical fault.

To define new rules use the menu ***CRM & SRM > Configuration > Cases > Rules***.



Screenshot of a rule

The criteria for activating this rule are defined on the main part of the screen. These criteria are:

- a condition about the initial state (for example during the creation of a case – initial state: `None`, eventual state: `Draft`),
- a condition about the destination state (for example at the closure of a case to send a confirmation or thank you email),
- the case section to which the rule applies,
- the category for the case,
- a condition about the manager of the case (for example to send copies of case progress to a manager if the client request is handled by a trainee),
- a condition about the priority level (for example to provide different types of reaction depending on the urgency of the request),
- a partner or a category to be applied to the rule,
- a date for the trigger
  - reporting by the date of creation
  - reporting by date of the last action
  - reporting by the length of time that it's been active.

If you have defined several criteria Open ERP will apply the rule only if all of the criteria are valid.

You define the action that will be taken if the rule is met in the second tab of the lower part of the setup window. The following actions are included:

- change the state of the case,
- move the case to a new section,
- assign the case to a system manager,
- change the priority of a case,
- send a reminder to the case manager or a partner,
- attach information (or not) to a reminder,
- send copies of the case discussion to specified email addresses,
- send a predefined email.

EXAMPLE 1 Improvement in the quality of support

For example, on the graph that analyses the performance of team support in Figure 4-6 (taken from the database `openerp_04X`) you can see that the Demo User takes an average time of 3 days and 4 hours to close a customer support request. This is too long. After analyzing the data in depth, you can see that most cases were closed in less than two days, but some may take more than ten days.

If you think that the quality of service should be improved you can automate certain actions. You could send copies of the discussion to a technical expert if the case remains open for longer than two days, defined by the following rule:

- ***Rule Name***: `Copy to an expert after 2 days`,
- ***Case state from***: `Open`,
- ***Case state to***: `Open`,
- ***Responsible***: `Demo User`,
- ***Trigger Date***: `Creation date`,
- ***Delay after trigger date***: `2 days`,
- ***Add watchers (cc)***: `expert@mycompany.com ,`
- ***Remind responsible***: `Yes`.

After the rule has been defined, the expert will receive a copy of the whole discussion between the Demo User and the customer for every case that remains unclosed after two days. He'll be able to interact with the discussion to avoid lengthy delays on complex problems.

Some companies use several support levels. The first level is handled by the least qualified support people and the higher levels by users who have the advantage of more experience. A user on level 1 can escalate the case to a higher level when necessary.

To systematically train employees at level 1 you can create the following rule: when the case has been escalated they will continue to be copied on the progress of the case. If a user at support level 1 can't handle a request he can escalate it to level 2. Then when an expert at level 2 answers the customer's request, the level 1 support person also receives the answer to the problem that he couldn't originally handle. So your team can be educated automatically from listening in to the passage of live support calls.

Suppose that you supply two types of support contract to your customers: Gold and Normal. You can then create a rule which raises the priority of a case automatically if the partner is in the Gold Support Contract category.

Define the case this way:

- ***Rule Name***: `Priority to Gold Partners`,
- ***Case state from***: `/`,
- ***Case state to***: `Open`,
- ***Partner Category***: `Support Contract / Gold`,
- ***Set priority to***: `High`.

Improved client relations can flow from using such rules intelligently. With the statistical control system you can manage certain SLAs (Service Level Agreements) with your customers without a great deal of effort on your part. So you can be selective in replying to those of your partners based on the specific quality of service that you are contracted to supply.

EXAMPLE 2 Tracking supplier quality

Remember that an Open ERP partner can be a supplier as much as a customer. You can use the same mechanism for the management of supplier quality as you do for customer support.

If any of your staff detect a quality problem with a product from a supplier they should create a new case in the ***Quality*** section. If the email gateway is installed all you need to do is copy an email to a specified address (for example `complaints@mycompany.com`) while sending your email of complaint to the supplier. The case is automatically created in Open ERP and the supplier's email response will close the case and be placed automatically in the case history.

In this case the user can add corrective or preventative actions to conform to ISO 9001, without having to enter every action into Open ERP – most of the information comes just from the emails.

The system's statistics provide analyses about the number and the cost of quality problems from different suppliers.

If certain suppliers don't offer the service quality that you expect you can automatically create rules that:

- send a reminder to the supplier after a few days if the case still remains open
- remind the production manager to call the supplier and resolve the situation if the case hasn't been closed within a week
- select and qualify your suppliers on the basis of their quality of service

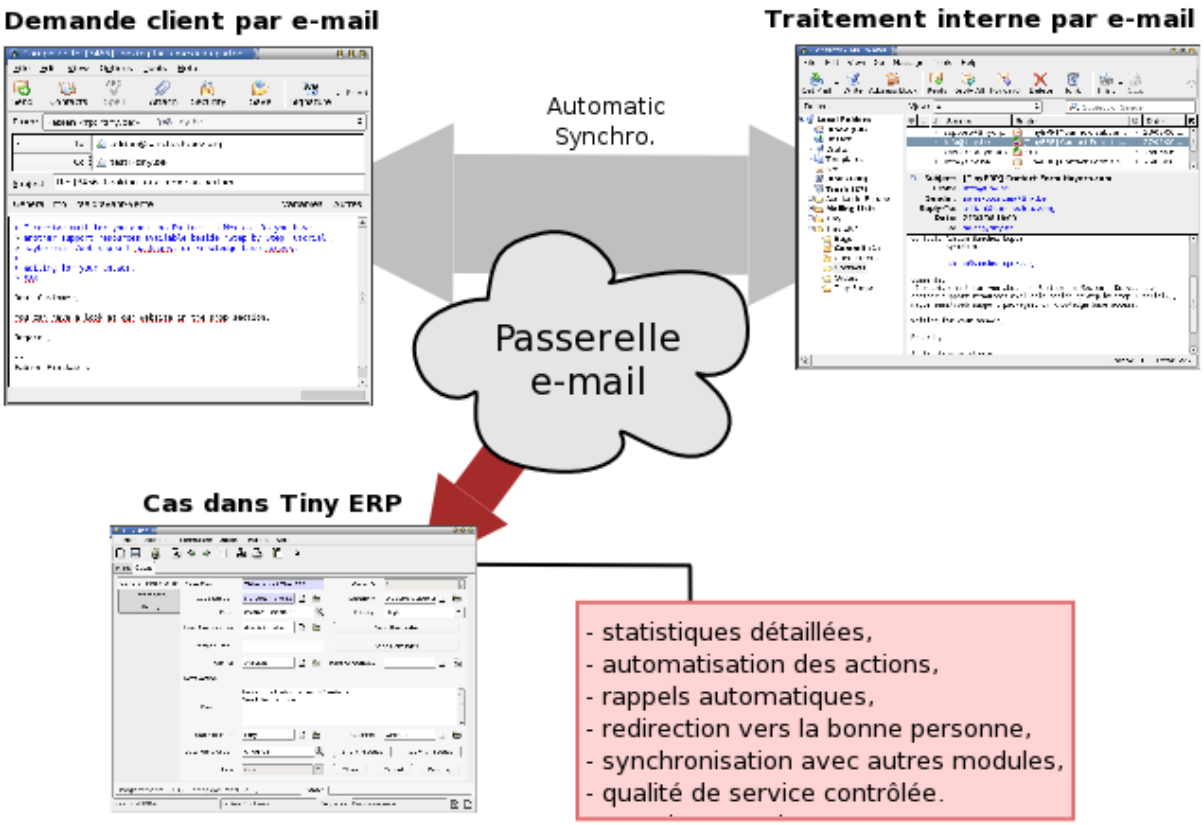
ADVANTAGE The CRM portal

Open ERP's `portal_service` module enables you to open parts of your CRM functionality to suppliers and customers. They can then connect to your system using their own login and follow their orders or requests online. For example the customer could make a support request directly in your system, perhaps avoiding a lengthy process of data entry.

Using the email gateway

To automate the creation of current cases you can install the email gateway.

The email gateway enables you to use Open ERP's CRM without necessarily using the Open ERP interface. Users can create up-to-date cases just by sending and receiving emails. This system works with the major current email clients such as Microsoft Outlook and Outlook Express, Thunderbird and Evolution.



Schematic showing the use of the email gateway

Installation and Configuration

To use the email gateway you must install it on your server. You can use a variety of methods to configure it. Described here is a simple and generic approach using the Fetchmail program under Linux. You'll need a system administrator to carry out this work.

To start with you have to create an email account (POP3 or IMAP) for each Section that you'll want to connect an email to. If you have the support email address `support@pop.mycompany.com` you'd use the following entries:

- ***POP server***: `pop.mycompany.com`,
- ***User***: `support`,
- ***Password***: `<mypass>`.

You'll also need to choose an Open ERP user that the gateway will use to access your database, such as:

- ***User Id***: `3`,
- ***Password***: `support`.

> **Technique Identifying a resource**
>
> Each resource on the Open ERP system has a unique identifier number. This corresponds to an identifier in the underlying PostgreSQL database table, in the ID column for that resource.
>
> With the web client you can usually find this number by going to the form view of a resource and clicking the View Log button to the top right of the form. The ID is shown at the top of the ***Information*** dialog box. (This didn't work in some of the versions prior to 4.2.3.3.)
>
> You can also use the GTK client for this. Viewing any resource, such as a User, you can directly see its ID at the bottom left of the form.

Then specify the case section in Open ERP that you'll use when this user is connected by email, for example, the `Helpdesk and Support` section.

Install Fetchmail on your Open ERP server. You can download it from the address http://fetchmail.berlios.de/.

> **Program Fetchmail**
>
> Fetchmail is a Free / Open Source software utility used on Unix-like operating systems to retrieve e-mails with the remote protocols POP, IMAP, ETRN and ODMR on the local system. It's downloadable from this address: http://fetchmail.berlios.de/.

Create a fetchmailrc file that contains the following rules:

```
# fetchmailrc
poll pop.mycompany.com proto pop3:
username support password mypass mda "/path/to/terpmg/openerp-mailgate.py -u3
-padmin -ssupport -esupport@mycompany.com"
```

Then start the fetchmail program, giving it a link to the configuration file that you just created:

```
fetchmail -f fetchmailrc
```

> **Technique error detection**
>
> If you're executing fetchmail for the first time you should use the -v argument. This makes its output verbose so you can easily see what's happening as the program executes.

Creating and maintaining cases

Each time you start fetchmail it downloads all the emails and creates or updates the cases in CRM. You can turn fetchmail into a daemon to check all new emails every five minutes by using the command:

```
fetchmail -d 300
```

If you want to receive customer requests by email you must first create a rule that automatically assigns new cases to a specified user. You must then verify that this user possesses a suitable email address in the ***Address*** field within Open ERP.

To find out if the new email should create a new case or update an existing case, Open ERP analyzes the subject line of the email. Existing cases are identified by the case number in the subject line, for example

```
Re: [101] Problem with ...
```

When a customer sends a new request by email the case is automatically created and the email is transferred by the gateway to the user responsible for new cases, changing the subject line to add the case identifier. The user can then respond by emailing or by using the Open ERP interface to the case. If the user responds by email the case can be automatically closed in Open ERP, keeping the responses in the history list. If the partner responds again, the case is reopened.

Profiling

Establishing the profiles of prospects

During presales activities it's useful to qualify your prospects quickly. You can pose a series of questions to find out what product to offer to the customer, or how quickly you should handle the request.

Method Profiling

This method of rapidly qualifying prospects is often used by companies who carry out presales by phone. A prospect list is imported into the Open ERP system as a set of partners and the operators then pose a series of questions to each prospect by phone.

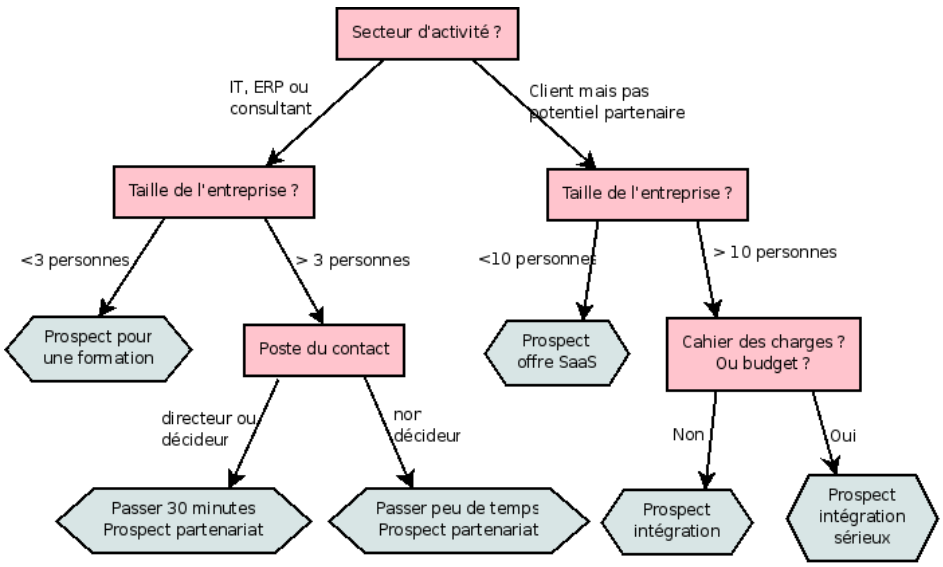
Responses to these questions enable each prospect to be qualified automatically which leads to a specific service being offered based on their responses

As an illustration, take the case of the Tiny company which offers a service based on the Open ERP software. The company goes to several exhibitions and encounters dozens of prospects over a few days. It's important to handle each request quickly and efficiently.

The products offered by Tiny at these exhibitions are:

- training on Open ERP – for independent people or small companies,
- partner contract – for IT companies that intend to offer an Open ERP service,
- Open ERP as SaaS – for small companies,
- a meeting in conjunction with a partner to provide a demonstration aimed at providing a software integration – for companies that are slightly larger.

The Tiny company has therefore put a decision tree in place based on the answers to several questions posed to prospects. These are given in the following figure:



Example of profiling customer prospects by the Tiny company

The sales person starts by asking the questions mentioned above and then with a couple of minutes of work can decide what to propose to the prospective customer.

At the end of the exhibition prospects' details and their responses to the questionnaire are entered into Open ERP. The profiling system automatically classifies the prospects into appropriate partner categories.

This enables your sales people to follow prospects up efficiently and adapt their approach based on each prospect's profile. For example, they can send a letter based on a template developed for a specific partner category. They'd use Open ERP's report editor and generator for their sales proposition, such as an invitation to a training session a week after the show.

Using profiles effectively

To use the profiling system you'll need to install Open ERP's `crm_profiling` module. It's not part of the core Open ERP system in version 4.2.2 so you have to download it separately.

Once the module is installed you can create a list of questions and the possible responses through the menu ***CRM & SRM > Configuration > Segmentation > Questions***.

To obtain the scheme presented earlier you can create the following questions and responses:

Questionnaire for defining profiles

Questions	Possible Responses

Journalist ?	Yes / No
Industry Sector ?	IT / ERP Consultant / Services / Industry / Others
Number of Staff ?	1 / 2-20 / 21-50 / 51-100 / 101-500 / 500+
Contact's job function ?	Decision-maker / Not decision-maker
Already created a specification for the work ?	Yes / Soon / No
Implementation budget ?	Unknown / <100k / 101-300k / >300k

For instance, a sales person specializing in large accounts for the service sector could have a profile defined like this:

- Budget for integration: `Unknown`, `100k-300k` or `>300k`,
- Already created a specification for the work? `Yes`,
- Industry Sector? `Services`.

When entering the details of a specific prospect, the prospect's answers to various questions can be entered in the new fifth tab of the partner form. Open ERP will automatically assign prospects to the appropriate partner category based on these answers.

A STEP FURTHER commercial objectives

The module `report_invoice_salesman` enables you to set up regular business targets. These can be based on sales turnover or sales margins.

With this module you can compare the performance of each sales person with their targets for the period. Sales people can view their own performance against target in real time through a dashboard.

This module is totally integrated with the rest of accounting so there's no need to extract any data from another system to get the sales figures against objectives by sales person or sector – it's just available all the time in real time.

Customers corresponding to a specific search profile can be treated as a priority. The sales person can access the profile of the large active accounts from the menu ***Partners > Partners by category***.

5

Communication Tools

5

Communication Tools

Summary

- Thunderbird interface
- Microsoft Outlook interface
- Microsoft Word interface

Keywords

- SRM, CRM
- productivity
- communication
- email
- Office

Open ERP provides all the information you need to pursue your company's business opportunities efficiently. But to stay productive with all the information you have to handle it's essential that you can keep using your normal communication tools by interfacing them with Open ERP, and not be restricted just to Open ERP's interface.

Open ERP can do most things you need to pursue your business opportunities effectively. But there can be quite a quite a bit to learn, which reduces your efficiency while you're learning. And if that's true for a heavy user of the system, it's doubly true for an occasional user or someone who already makes heavy use of standard Office applications and can't easily change.

So for those who need to continue using their traditional Office applications to maintain their efficiency, Open ERP can be fitted out with interface adapters to some of the most common. Your users can participate in many Open ERP-maintained processes without ever leaving their familiar Office-based environment, and can avoid double data-entry yet link into Open ERP's database automatically.

The three following modules are described:

- Mozilla Thunderbird interface,
- Microsoft Outlook interface,
- Microsoft Word interface.

These three modules were developed by the Axelor company (http://axelor.com, located in Paris) and are available through the official Open ERP site in the modules section.

The chapter is a mix of installation and configuration instructions, and basic interaction exercises.

Open ERP preparation

You'll need only one database for this chapter:

- `openerp_ch05X`, which should be a restored copy of `openerp_ch04X` the database you created at the start of Chapter 4 and then extended – you'll refer to it from time to time because it contains demonstration data that you can use to exercise some of the functions you encounter in the chapter,

To be able to backup and restore the database you'll need to know your super-administrator password.

You'll probably also need your system's `addons` directory to be writable, since some of the modules you'll need may have to be added separately – they weren't available as part of core the 4.2.2 release of Open ERP.

You will need to have administrator access to your Windows PC to install the Outlook and Word interface adapters described in the chapter.

Mozilla Thunderbird interface

The Mozilla Thunderbird plugin enables you to carry out a series of Open ERP operations directly from the Thunderbird email client:

- create a contact or partner from an email,
- save an email and its attachments in Open ERP,

• send any file attached to an Open ERP document (such as proposals, projects, and tasks).

Installing the Thunderbird extension

To be able to use the Thunderbird plugin you first have to install the Open ERP module `email_interface`. It's not loaded in the core of Open ERP Server 4.2.2 (so you'll have to load it using one of the methods described at the end of Chapter 1) but may be in a future version. Once you've got it into your server's filesystem it's installed the same way as all of the other modules you've handled so far.

You'll then have to install the Thunderbird extension. To do that, use the file `tiny_plugin_2.0.xpi` which is found in the plugins directory of the `email_interface` module. Then take the following steps:

1 From Thunderbird, open the menu ***Tools > Complementary Modules***.
2 Click the ***Install*** button.
3 Select the file `tiny_plugin-2.0.xpi`.
4 Click ***Install Now*** then restart Thunderbird.

Once the extension has been installed, you have only to create a shortcut in your Thunderbird toolbar for the function ***Archive to Tiny***. Do it like this:

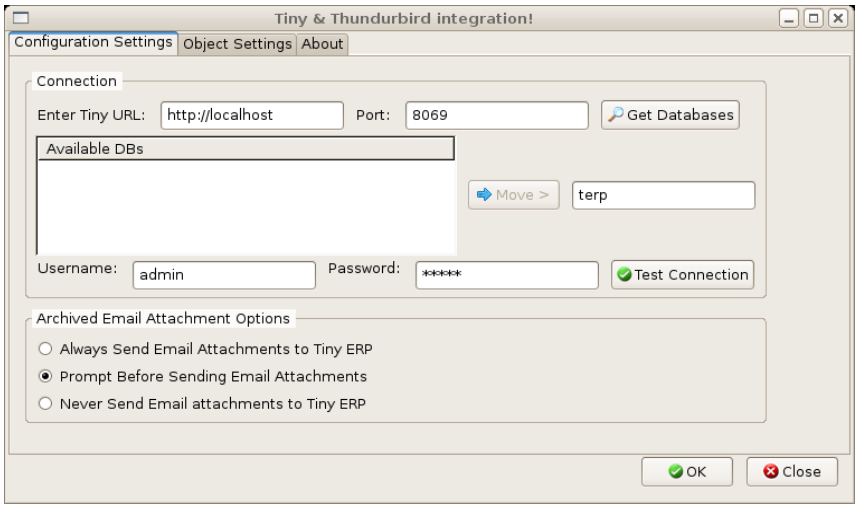
1 Click the right mouse button on the toolbar and select ***Personalize***,
2 Place the icon ***Archive to Tiny*** in your toolbar in the place of your choice.

> **Attention Thunderbird version**
>
> The Tiny plugin for Thunderbird only works with Thunderbird version 2.0 and above.
>
> So check your Thunderbird version before installing, and download the latest version that you need from the following address: http://www.mozilla.org/products/thunderbird/

Thunderbird user interface

When you've installed the module the first thing to do is connect it to Open ERP from Thunderbird. To do this use the menu ***Tools > Tiny Plugin***.

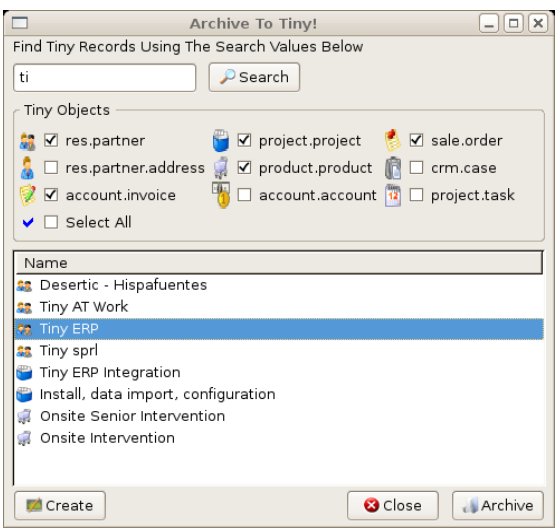
A configuration window appears enabling you to enter configuration data about your Open ERP server.



Configuration for accessing Open ERP from Thunderbird

To archive an email in Open ERP from Thunderbird select the email and click on the icon ***Archive in Tiny***. Alternatively you could right-click the mouse: either opens a search dialog box.

This allows you to select an object that you'd like to add to your email and its attachments. You can select a partner, a task, a project, an analytical account, or any other object.



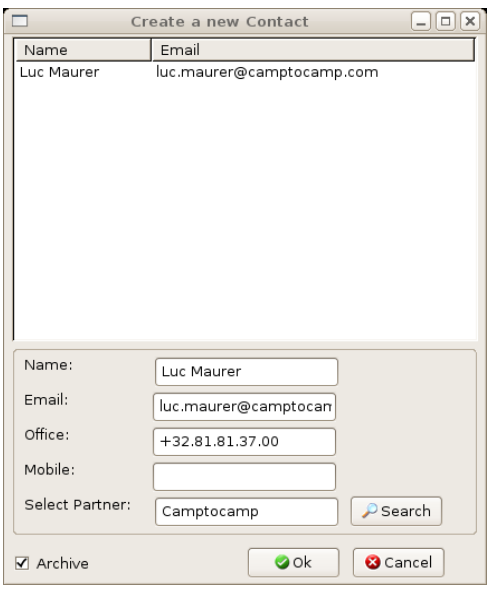
Selecting Open ERP objects from Thunderbird

A STEP FURTHER Document Management

The Thunderbird plugin is compatible with Open ERP's document management. So if you install the module `document` you could:

- search through the content of your company's documents (those that have the type `.doc`, `.pdf`, `.sxw` and `.odt`) and also in archived emails,
- have a shared filesystem that's connected to various Open ERP documents to share information and access it with your favorite browser,
- organize and structure your documents (such as projects, partners and users) in Open ERP's system.

If you can't find a partner or contact to correspond with your email in Open ERP it's possible to create one on the fly simply by using the information contained in the email and clicking the ***Create*** button



Creating a contact on the fly from Thunderbird

To access archived data from different documents in Open ERP you can use the ***Email Thunderbird*** interface that appears over Open ERP documents.

NOTE Testing the Thunderbird adapter

If you install the Thunderbird adapter as described, use the openerp_ch05X database to explore its functionality as described in this section

Microsoft Outlook interface

Everything that you can do with the Thunderbird plugin you can also do with the Microsoft Outlook plugin – enabling you to carry out a series of Open ERP operations directly from Outlook, such as:

- create a contact or partner from an email,
- archive an email and its attachments in Open ERP,
- send any file attached to an Open ERP document (such as proposals, projects, and tasks).

ATTENTION Outlook versions

The Microsoft Outlook plugin works with Microsoft Outlook 2003 and 2007 but not with Outlook Express

Installing the Outlook plugin

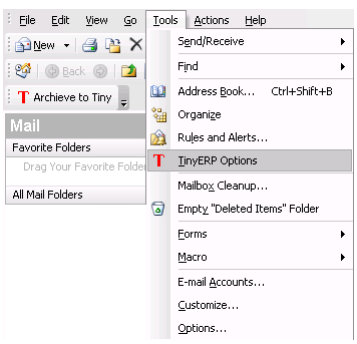
To start, you must install the `email_interface` module in Open ERP. It's the same module as used by the Thunderbird extension. Don't install it again if it's already there (which it might be because you can use both Outlook and Thunderbird simultaneously to get the same Open ERP functionality – so some of your staff may use one and other may use the other).

Once you've installed the module all you need is to run the Windows auto-installer `tiny_outlook_plugin-X.exe` where X corresponds to the version number downloaded. This file can be found in the list of modules on the official Open ERP site.

Installation is then automatic.

Using the Outlook plugin

Using the Microsoft Outlook plugin is quite similar to using the Thunderbird extension. In Outlook find the menu ***Tools > Tiny ERP Options***.

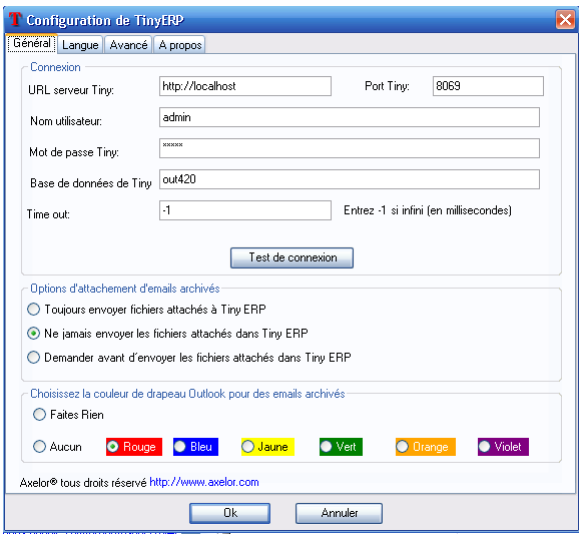


Configuration menu for the interface between Outlook and Open ERP

In the window that you use for configuring the Outlook plugin you can enter parameters for accessing the Tiny server, with various options for:

- how to handle attachments,
- which color to give emails transferred to Open ERP.

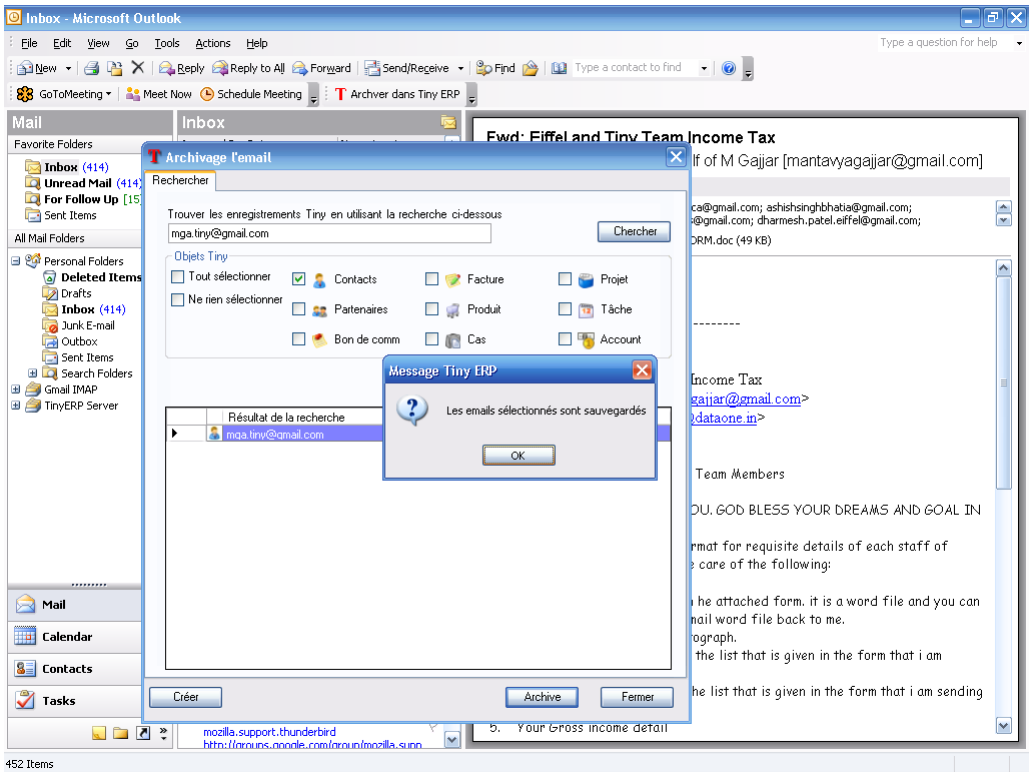
Once the server data entry is completed, click ***Test the Connection*** to check that your parameters make it function correctly.



Configuring access to Open ERP from Word

When Outlook is configured, archiving an email and its attached files in Open ERP can be done in several ways:

- directly from the toolbar,
- from the context menu by right-clicking on an email,



Saving an Outlook email in Open ERP

- from the page while looking at the email.

You can select an existing contact or create a new contact on the fly in the Open ERP database. Then you can send the email and its attachments and also save it in Open ERP.

It's possible to send attachments to all types of Open ERP objects. For example this might be useful for:

- sending documents about a customer project into the corresponding project in Open ERP,
- attaching the documents about an order (such as proof of payment and order receipts),
- attaching documents to an employee file (such as their CV or annual appraisal).

Once the email is sent into Open ERP it's marked with another color in Outlook to help remind you not to archive it again.

NOTE Testing the Outlook adapter

If you install the Outlook adapter as described, use the openerp_ch05X database to explore its functionality as described in this section

Microsoft Word interface

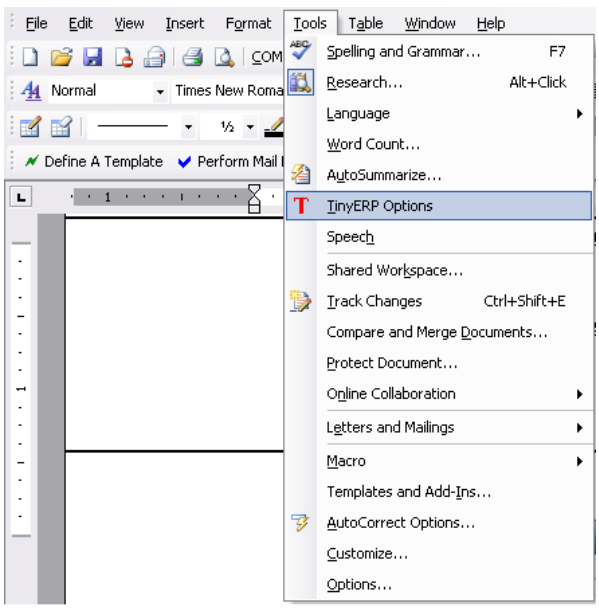
Open ERP supplies a Microsoft Word plugin that enables you to create your own document templates. What's more you can use the merge tool ***Tools > Merge documents*** to insert data from Open ERP while you generate different business documents.

So it's possible to create templates for a number of needs, such as proposals, business letters of agreement, or price requests. Each user can create his or her own document and use the plugin to obtain data from Open ERP. The plugin is very helpful for easily automating business actions.

Installing the Word plugin

The module for connecting Microsoft Word is also found in the list of Open ERP modules at http://openerp.com. Once it's been downloaded install the file `tiny_word_plugin-X.exe`.

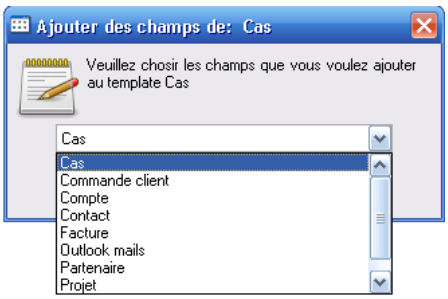
When the program is installed, you must run Microsoft Word and configure the parameters that will enable you to access the Open ERP server from Word. Click the menu ***Tools > Tiny ERP options***.



Menu for accessing the configuration of the plugin

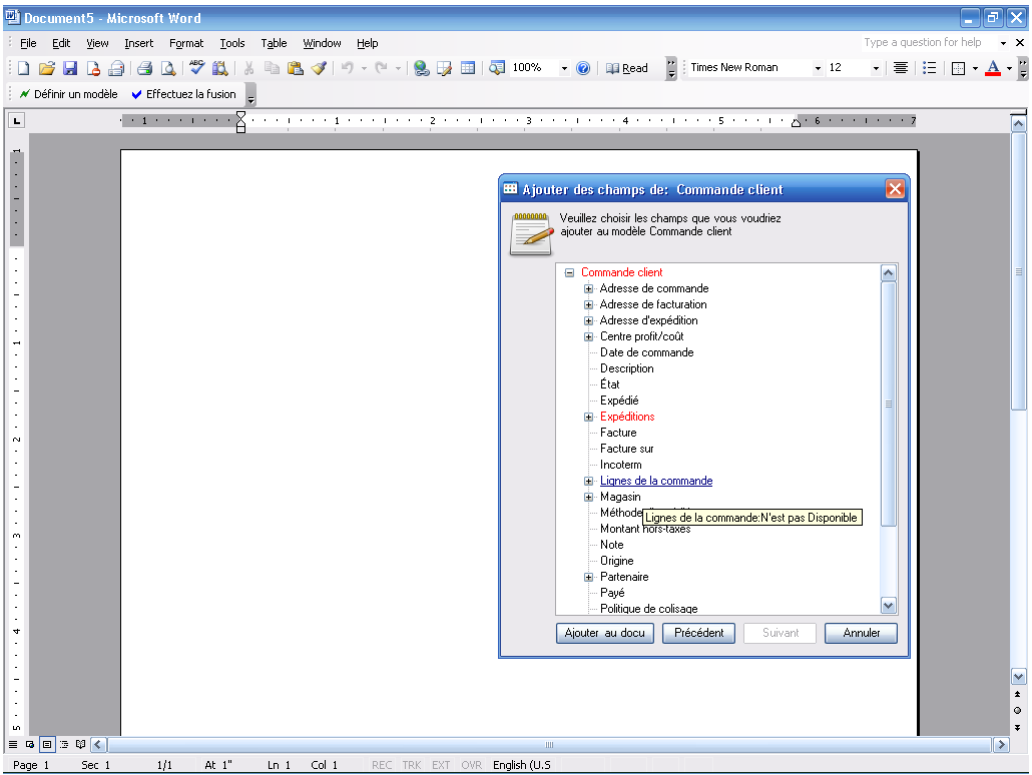
Using the Word interface

Start by selecting the module from which you want to make a report, for example a Sales Order. From Word you can access all the fields in an Open ERP Order, and all of the fields linked to that order such as from Order Lines, and from Products in those Order Lines.



Select the module that will generate the report

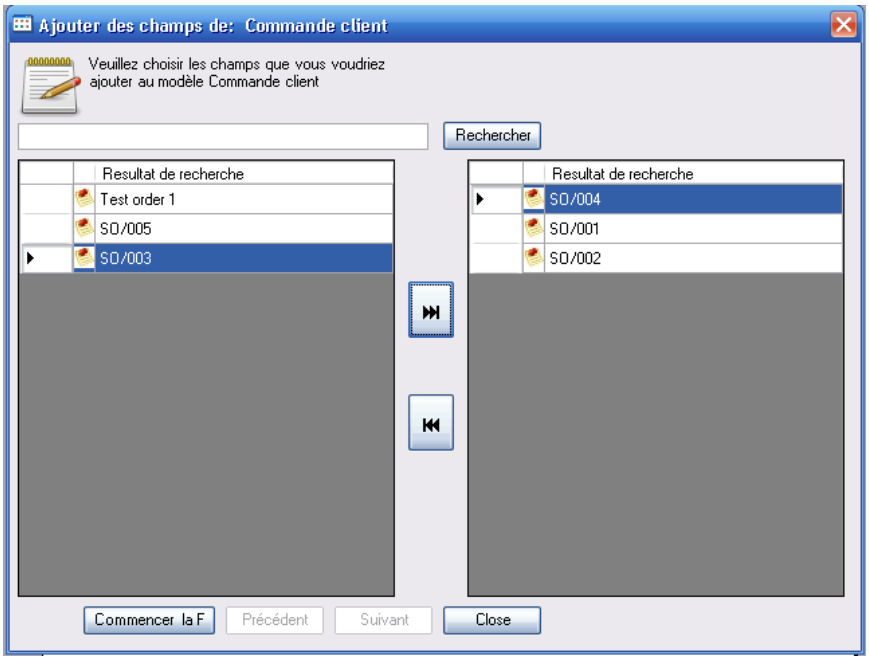
Complete your document and insert Open ERP fields into the appropriate places.



Add Open ERP fields into a Word document

ATTENTION Fields in red

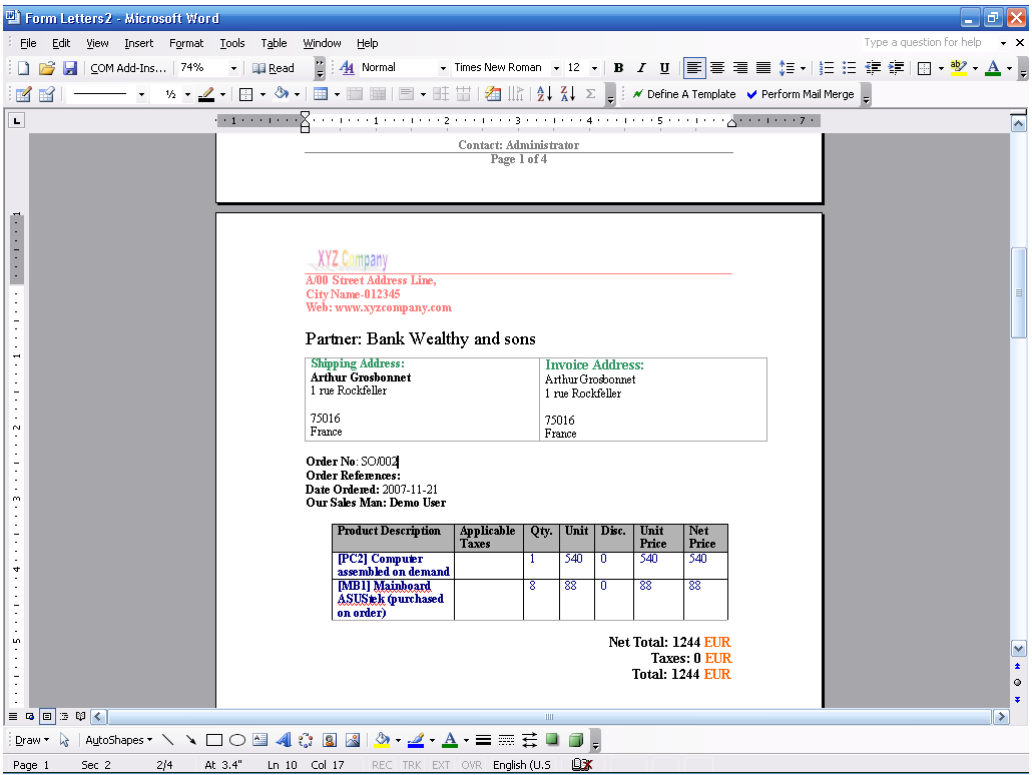
When you've selected some fields and added them into your Word document, some of them appear in red. This color indicates that you can't use that particular field because it has a complex data relationships that can only be discovered when you start to use the field.



Selecting the Open ERP documents to use in the merge

Select the merge tool from by clicking ***Perform Mail Merge*** from the toolbar. This connects Microsoft Word to Open ERP, at which point it searches for data to insert into the document. This tool enables you to select which documents must be included in the report. Make your selection and click ***Start Merge*** to run the tool that produces your different documents.

Word then generates the documents by inserting the Open ERP data. You get one page for each selected document.



Result of merging a Word document with data from Open ERP

NOTE Testing the Word adapter

If you install the Word adapter as described, use the openerp_ch05X database to explore its functionality as described in this section.

In Chapter 13 you'll see another, more powerful, module that enables you to create complete reports in OpenOffice.org through an interface added directly in Open ERP. So you can create your own templates, such as fax and invoice templates.

These reports can then be exported in PDF by leaving Open ERP, or can be edited before sending to a customer. So you can also personalize the details of your faxes and invoices as needed, even though they are based on your templates.

Part III

General Accounting

Part III

General Accounting

When it's well integrated with the management system, an accounting system offers a company special benefits in addition to the obvious abilities it should have to report on the financial position. This part deals with the practical aspects of accounting, and accounting's role throughout the whole company.

Open ERP's accounting modules enable you not only to manage your operations clearly, following the workflow through from invoicing to payment, but also to use various tools for financial analysis based on both real-time data and recent history depending on the analysis.

Your accounting structure can be completely configured, from A to Z, to match the needs of your company very closely.

6

From invoice to payment

6

From invoice to payment

Summary

- Basic accounting workflow
- Invoices
- Receipts
- Management reports
- Reconciliation
- Managing payment orders

Keywords

- chart of accounts
- reconciliation
- balance sheet
- tax
- invoices
- credit note
- payments
- statements of account
- cash

This chapter traces the basic accounting workflow in Open ERP, from entering an invoice to registering payment. The various operations are described, from the entry of accounting receipts and the treatment of the reconciliation process, including payment orders.

Accounting is at the heart of managing a company: all the company's operations have an impact there. It has an informational role (how much cash is there? what debts need to be repaid? what's the stock valuation?) and, because of the information it provides, a reliable and detailed accounting system can and should have a major decision-making role.

In most real companies, accounting is limited to producing statutory reports and satisfying the directors' curiosity about certain strategic decisions, and to printing the balance sheet and the income statement several times a year. Even then there's often several weeks of delay between reality and the report.

ADVICE valuing your accounting function

In many small companies, the accounting function is poorly used.

Not only do you see the data for documents being entered into the system twice, but also the results are often just used to produce legal documentation and periodic printouts, some weeks later, of the balance and income statements.

By contrast, integrating your accounts with your management system means that you can:

- reduce data entry effort – you only need do it once,
- run your processes with the benefit of financial vision: for example in managing projects, negotiating contracts, and forecasting cash flow,
- easily get hold of useful information when you need it, such as a customer's credit position.

So accounting is too often under-utilized. The information it brings makes it a very effective tool for running the company if it's integrated into the management system. Accounting information really is necessary in all of your company's processes for you to be effective, for example:

- for preparing quotations it's important to know the precise financial position of the client, and to see a history of any delays in payment,
- if a given customer has exceeded their credit limit, accounting can automatically stop further deliveries to the customer,
- if a project budget is 80% consumed but the project is only 20% complete you could renegotiate with the client, or review and reign in the objectives of the project,
- if you need to improve your company's cash flow then you could plan your services projects on the basis of billing rates and payment terms of the various projects, and not just delivery dates – you could work on short-term client projects in preference to R&D projects, for example.

Open ERP's general accounting and analytic accounting handle these needs well because of the close integration between all of the application modules. Furthermore, the transactions, the actions and the financial analyses happen in real time, so that you can not only monitor the situation but also manage it effectively.

The accounting module in Open ERP covers general accounting, analytic accounting, and auxiliary and budgetary accounting. It's double-entry, multi-currency and multi-company.

Terminology Accounting

- General accounting (or financial accounting) is for identifying the assets and liabilities of the business. It's managed using double-entry accounting which ensures that each transaction is credited to one account and debited from another.
- Analytical accounting (or management accounting, or cost accounting) is an independent accounting system which reflects the general accounts but is structured along axes that represent the company's management needs.
- Auxiliary accounting reflects the accounts of customers and/or suppliers.
- Budgetary accounts predefine the expected allocation of resources, usually at the start of a financial year.

Method Multi-company

There is a choice of methods for integrating Open ERP in a multi-company environment:

- if the companies hold few documents in common (such as products, or partners - any Open ERP resource), you should install separate databases,
- if the companies share many documents, you can register them in the same database and install Open ERP's multi-company documents to finely manage access rights,
- it's possible to synchronize specified document types in several databases using the `synchro` module.

One of the great advantages of integrating accounts with all of the other modules is in avoiding the double entry of data into accounting documents. So in Open ERP an Order automatically generates an Invoice, and the Invoice automatically generates the accounting entries. These in turn generate tax submissions, customer reminders, and so on. Such strong integration enables you to:

- reduce data entry work,
- greatly reduce the number of data entry errors,
- get information in real time and enable very fast reaction times (for bill reminders, for example),
- exert timely control over all areas of company management.

Advice For accountants

When you create a database you can elect to install only the accounting modules by choosing the `Accounting Only` profile.

You should install the web portal. With appropriate rights management, this allows trustees to provide customers with real-time access to their data. It also gives them the opportunity to

work on certain documents that have no direct accounting impact, such as budgets.

This can provide an added-value service that greatly improves the interaction between trustees and their clients.

All the accounts are held in the default currency (which is specified in the company definition), but each account and/or transaction can also have a secondary currency (which is defined in the account). The value of multi-currency transactions is then tracked in both currencies.

Open ERP preparation

You'll need two databases for this chapter:

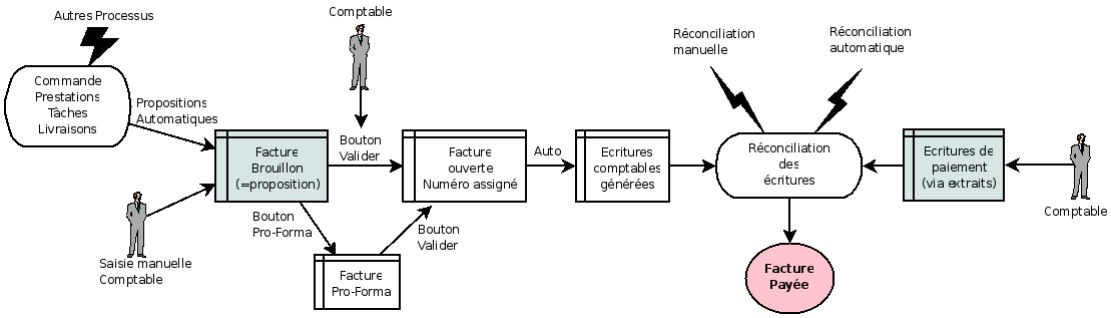
- `openerp_ch06X`, which should be a restored copy of `openerp_ch02`, the database you created through Chapter 2. It's referenced throughout the main body of this chapter because it contains demonstration data that illustrates points made in the chapter.
- `openerp_ch06`, which should be a restored copy of `openerp_ch04,` the database you created through Chapter 4. You can follow the instructions in this chapter to extend this database, though you'd have to generate your own data to do so.

To be able to backup and restore these databases you'll need to know your super-administrator password.

You'll also need your system's `addons` directory to be writable, since you'll load new modules into it later in the chapter – they're not provided in the core 4.2 release of Open ERP.

Accounting workflow and the automatic generation of invoices

The chart below shows the financial workflow followed by each invoice.



Accounting workflow for invoicing and payment

In general, when you use all of Open ERP's functionality, invoices don't need to be entered manually. Draft invoices are generated automatically from other documents such as Purchase Orders.

Draft Invoices

The system generates invoice proposals which are initially set to the `Draft` state. While these invoices remain unconfirmed they have no accounting impact within the system. There's nothing to stop users creating their own invoices if they want to.

The information that's needed for invoicing is automatically taken from the Partner form (such as payment conditions and the invoice address) or from the Product (such as the account to be used) or from a combination of the two (such as applicable Taxes and the Price of the product).

ADVANTAGE Draft invoices

There are several advantages in working with Draft invoices:

- You've got an intermediate validation state before the invoice is approved. This is very useful when your accountants aren't the people creating the initial invoice, but are still required to approve it before the invoice is entered into the accounts.
- This enables you to create invoices in advance, without approving them at the same time. You're also able to list all of the invoices awaiting approval.

Open or Pro-Forma Invoices

It's possible to approve (or validate) an invoice in the `Open` or `Pro Forma` state. A Pro Forma invoice doesn't yet have an invoice number, but the accounting entries on the invoice that's created correspond to the amounts that Open ERP will record as the customer's payables.

COMMENT Pro Forma invoices

In some countries, you're not allowed to generate accounting entries from pro forma invoices. You create instead a report from the purchase order, which prints a pro forma invoice, which has no accounting consequences within the system.

You can use the module described in Chapter 13 to create this report.

An open invoice has a unique invoice number. The invoice is sent to the customer and is marked on the system as awaiting payment.

Reconciling invoice entries and payments

In Open ERP an invoice is considered to be paid when its accounting entries have been reconciled with the payment entries. If there hasn't been a reconciliation an invoice can remain in the open state until you have entered the payment.

ATTENTION Payment and reconciliation

To avoid surprises, it's important to understand the idea of reconciliation and its link with invoice payment.

You'll find both a ***Reconciled*** field and the ***Paid*** checkbox on an invoice. They differ from each other only if an invoice has been paid (using reconciliation of records) but has subsequently been marked as unreconciled

TERMINOLOGY Reconciliation

Reconciliation links entries in a single account that cancel each other out – they're reconciled to each other (sum of credits = sum of debits).

This is generally applied to payments against corresponding invoices.

Without the reconciliation process, Open ERP would be incapable of marking invoices that have been paid. Suppose that you've got the following situation for the Smith and Offspring customer:

- Invoice 145: 50,
- Invoice 167: 120,
- Invoice 184: 70.

If you receive a payment of 120, Open ERP will delay reconciliation because there's a choice of invoices to pay. It could either reconcile the payment against invoices 145 and 184 or against invoice 167.

You can cancel an invoice if the ***Allow Cancelling Entries*** function has been activated in the journal and the entries haven't yet been reconciled. You could then move it from `Canceled`, through the `Draft` state to modify it and regenerate it.

NOTE Treatment in Lots

Usually, different transactions are grouped together and handled at the same time rather than invoice by invoice. This is called batch work or lot handling.

You can select several documents in the list of invoices: check the checkboxes of the interesting lines using the web client and click the appropriate shortcut button at the right; or shift-click the lines using the mouse in the GTK client and use the action or print button at the top – these give you the option of one of a number of possible actions on the selected objects.

At regular intervals, and independently of the invoices, an automatic import procedure or a manual accounts procedure can be used to bring in bank statements. These comprise all of the payments of suppliers and customers and general transactions, such as between accounts.

When an account is validated, the corresponding accounting entries are automatically generated by Open ERP.

Invoices are marked as paid when accounting entries on the invoice have been reconciled with accounting entries about their payment.

This reconciliation transaction can be carried out at various places in the process, depending on your preference:

- at data entry for the accounting statement,
- manually from the account records,
- automatically using Open ERP's intelligent reconciliation.

You can create the accounting records directly, without using the invoice and account statements. To do this, use the rapid data entry form in a journal. Some accountants prefer this approach because they're used to thinking in terms of accounting records rather than in terms of invoices and payments.

You should really use the forms designed for invoices and bank statements rather than manual data entry records, however. These are simpler and are managed within an error-control system.

A records-based system

All the accounting transactions in Open ERP are based on records, whether they're created by an invoice or created directly.

So partner reminders are generated simply from the list of unreconciled entries in the trade receivables account for that partner. In a single reminder you'll find the whole set of unpaid invoices as well as unreconciled payments, such as advances.

Similarly, financial statements such as the general ledger, account balance, aged balance (or chronological balance) and the various journals, are all based on accounting entries. It doesn't matter if you generated the entry from an invoice form or directly in the invoice journal. It's the same for the tax declaration and other statutory financial statements.

When using integrated accounting, you should still go through the standard billing process because some modules are directly dependent on invoice documents. For example, a customer sale order can be configured to wait for payment of the invoice before triggering a delivery. In such a case, Open ERP automatically generates a draft invoice to send to the client.

Invoicing

In Open ERP, the concept of “invoice” includes the following documents:

- the customer invoice,
- the supplier invoice,
- a customer credit note,
- a supplier credit note.

Only the invoice type and the representation mode differ for each of the four documents. But they're all stored in the same object type in the system.

You get the correct form for each of the four types of invoice from the menu you use to open it. The name of the tab enables you to tell the invoice types apart when you're working on them.

Technique Types of invoice

There are many advantages in deriving the different types of invoice from the same object. The two most important are:

- In a multi-company environment with inter-company invoicing, a customer invoice in one company becomes a supplier invoice for the other.
- This enables you to work and search for all invoices from the same menu. If you're looking for an invoicing history, Open ERP provides both supplier and customer invoices in the same list, as well as credit notes.

Terminology Credit Note

A credit note is a document that enables you to cancel an invoice or part of an invoice.

To access invoices in Open ERP, use the submenus of ***Financial Management > Invoices***.

Most of the time, invoices are generated automatically by Open ERP as they are generated from other processes in the system. So it's not usually necessary to create them manually, but simply approve or validate them. Open ERP uses the following different ways of generating invoices:

- from Supplier or Customer Orders,
- from reception or despatch of goods,
- from work carried out (timesheets, see chapter 10),
- from closed tasks (see chapter 12),
- from fee charges or other rechargeable expenses (see chapter 11).

The different processes generate `Draft` invoices. These must then be approved by a suitable system user and sent to the customer. The different invoicing methods are detailed in the following sections and chapters.

To get the list of draft invoices generated by Open ERP, you can use the menu ***Financial Management > Invoices > Customer Invoices > Draft Customer Invoices***. You'll find a similar menu for Purchase Invoices that haven't yet been received or approved: ***Financial Management > Invoices > Supplier Invoices > Draft Supplier Invoices***.

It's also possible to enter invoices manually. This is usually done for invoices that aren't associated with an Order (usually purchase orders) or credit notes. Also if the system hasn't been configured correctly you might need to edit the invoice before sending it to the customer.

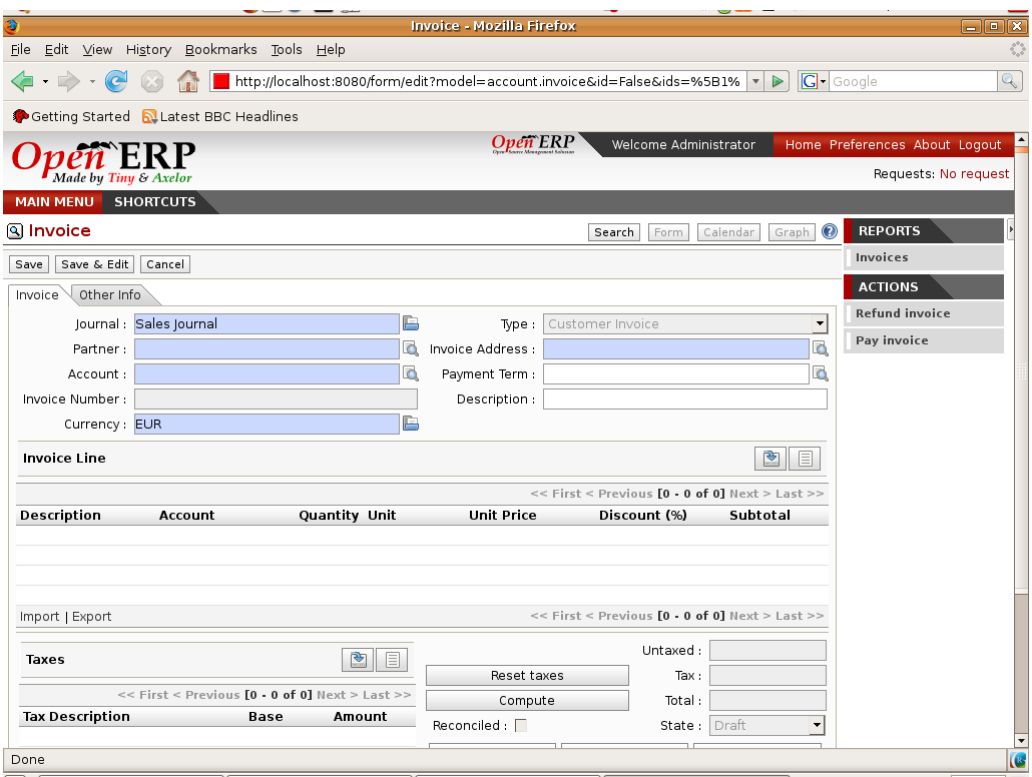
For example, if you haven't noted that the customer is tax-exempt, the invoice you generate from an Order will contain tax at the normal rates. It's then possible to edit this out of the invoice before validating it.

Entering a customer invoice

The principle of entering data for invoices in Open ERP is very simple, as it enables non-accountant users to create their own invoices. This means that your accounting information can be kept up to date all the time as orders are placed and received, and their taxes are calculated.

At the same time it allows people who have more accounting knowledge to keep full control over the accounting entries that are being generated. Each value proposed by Open ERP can be modified later if needed.

Start by manually entering a customer invoice. Use ***Financial Management > Invoices > Customer Invoices*** for this.



Entering a new invoice

A new invoice form opens for entering information.

The document is composed of three parts:

- the top of the invoice, with customer information,
- the main body of the invoice, with detailed invoice lines,
- the bottom of the page, with detail about the taxes, and the totals.

To enter a document in Open ERP you should always fill in fields in the order that they appear on screen. Doing it this way means that some of the later fields are filled in automatically from the selections made in earlier fields. So select the Partner, and the following fields are completed automatically:

- the invoice address corresponds to the partner contact that was given the address type of `Invoice` in the partner form (or otherwise the address type of `Default`),
- the partner account corresponds to the account given in the Properties which is found in the third tab of the partner form. By default the software is configured with account `Accounts Receivable`.,
- a payment condition can be specified for this case or, if it's been defined by default, in the ***Properties*** area of the partner form. Payment conditions are generated by rules for the payment of the invoice. For example: 50% in 21 days and 50% in 60 days from the end of the month.

DEFINITION Properties fields

The ***Properties*** fields on the Partner form or the Product form are multi-company fields. The value that the user sees in these fields depends on the company that the user works for.

If you work in a multi-company environment that's using one database, you have several charts of accounts. Asset and liability accounts for a partner depend on the company that the user works for.

NOTE Seeing partner relationships

You can always reach more information from a relation field in Open ERP. In the web client a relation is a hyperlink if the form is read-only – it takes you to the main form for that entity, with all of the actions and links. In the web client in edit mode, and in the GTK client, you can press the keyboard ***Ctrl*** button at the same time as right-clicking in the field to get a drop-down dialog with links and other options. So you could click on a partner field to rapidly get the partner's:

- current sales and purchases,
- CRM requests,
- open invoices,
- accounts records,
- payable and receivable accounts.

You can then add a short Description to the invoice and select the currency that you want to invoice in.

ATTENTION Invoice Description

The invoice description is more of a title than a comment. If you want to add more detailed comments you can use the ***Notes*** field at the bottom of the second tab ***Other Information***.

Once the invoice heading is saved you must enter the different invoice lines. You could use either of two techniques:

- enter the whole field manually,
- use a product to complete the different fields automatically.

So select the product `Titanium Alloy Radiator` in the product field in an invoice line. The following fields are then completed automatically:

- ***Description***: this comes from the product, in the language of the partner,
- ***Credit/debit account***: determined by the purchase or sales account defined in the product properties. If no account is specified in the product form, Open ERP use the properties of the category that the product is associated with.
- ***Unit of Measure***: this is defined by default in the product form,
- ***Unit price***: this is given by the list price in the product form and is expressed without taxes,
- ***Taxes***: provided by the product form and the partner form.

NOTE Managing the price with tax included

By default, Open ERP invoices and processes the price without taxes – they're managed as a separate figure. If you want to have invoices provided with tax included you can install the module `account_tax_include`.

The module adds a field on each invoice that enables you to indicate if the invoice is tax exclusive or tax inclusive.

NOTE Information about the product

When you're entering invoice data it can sometimes be useful to get hold of more information about the product you're invoicing. Since you're already in edit mode, you'd press the ***Ctrl*** key and use a right mouse-click on the ***Product*** field (in both the web and the GTK clients). Then select the available reports. Open ERP provides three standard reports about the product

- forecasts of future stock,
- product cost structure,
- location of the product in your warehouses.

It's possible to enter several invoice lines and modify the values that are automatically suggested by Open ERP.

Once the invoice lines have been entered, you can click ***Calculate*** on the invoice to get the following information:

- details of tax calculated,
- tax rate,

- total taxes,
- total price.

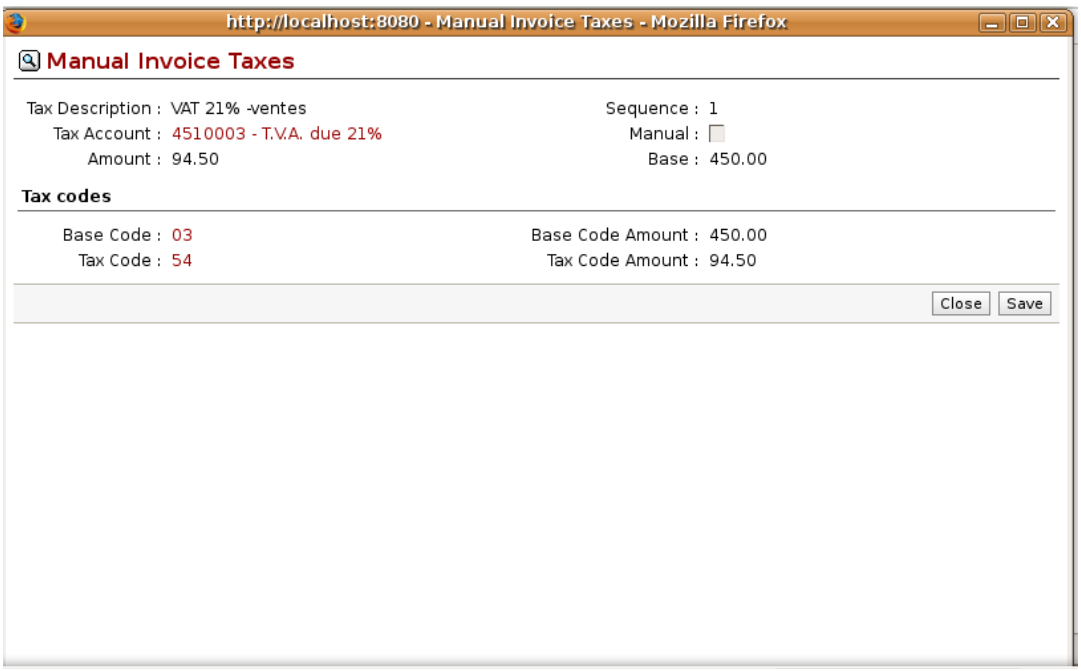
In the ***Taxes*** area at the bottom left of the invoice you'll find the details of the totals calculated for different tax rates used in the invoice.

TECHNIQUE Tax Calculations

You can double-click on one of the lines in the tax summary areas in the invoice.

Open ERP then shows you the detail of the tax charges which will effectively be your tax declaration at the end of the month.

It shows you the total that will be computed in the different parts of the legal declaration. This enables you to manage the declaration in Open ERP automatically.



Detail of tax charges on an invoice

Before approving the invoice you can modify the date and the accounting period, which are entered by default as today's date. These fields are found on the second tab ***Other Information***.

NOTE Invoice layout

If you want to make your invoice layout more elaborate you can install the module `account_invoice_layout`. This enables you to add various elements between the lines such as subtotals, sections, separators and notes.

Click ***Validate*** when you want to approve the invoice. It moves from the `Draft` state to the `Open` state.

When you've validated an invoice, Open ERP gives it a unique number from a defined sequence. By default it takes the form `Year / Sequence Number` for example `2008/00101`. If you want to modify the sequence numbers use the menu ***Administration > Custom > Sequences > Sequences***.

Accounting entries corresponding to this invoice are automatically generated when you approve the invoice. You can verify the detail of this by clicking the ***Open*** icon for the ***Transactions*** field in the second tab of the invoice.

Managing taxes

Details on the product form and the partner form determine the selection of applicable taxes for an invoice line. By default Open ERP takes account of all the taxes defined in the product form. If a tax is defined in the Properties tab of the Partner form then Open ERP will base its tax calculation on the Partner taxes instead, so a Partner that is defined as tax-exempt, for example, will take precedence over taxes defined in the Product.

Take the case of the following product

- Applicable taxes:
  - TVA: 19.6% type TVA
  - DEEE: 5.5, type DEEE

Definition. DEEE tax

The DEEE tax (disposal of electronic and electrical equipment) is an ecological tax that was imposed in France from 2007. It's applied to batteries to finance their recycling and is a fixed sum that's applied to the before-tax figure on the invoice

If you trade with a company in your own country, and your country has a DEEE-type tax, the applicable taxes for this invoice will be:

- DEEE: 5.5,
- TVA: 19.6%.

If you sell to a customer in another company in the community (intracommunity), instead, then tax is not charged. Your foreign partners would then be zero-rated by selecting a 0% tax in the 4th tab, ***Properties***. When you create an invoice for this customer, Open ERP will calculate the following taxes on the product:

- DEEE: 5.5,
- TVA intracommunity: 0%.

If you haven't coded the parameters in the customer form correctly, Open ERP will suggest incorrect taxes in the invoice. That's not an insuperable problem because you can always modify the information directly in the invoice before approving it.

ADVICE Occasional invoices

When you create an invoice for a product that will only be bought or sold once you don't have to encode a new product. But you'll have to provide quite a bit of information manually on the invoice line:

- sale price,
- applicable taxes,
- account,
- product description.

Cancelling an invoice

By default Open ERP won't allow you to cancel an invoice once it has been approved. Since accounting entries have been created you theoretically can't go back and delete them. However in many cases it's more convenient to cancel an invoice when there's an error than to produce a credit note and reconcile the two entries. Your attitude to this will be influenced by current legislation in your accounting jurisdiction and your adherence to accounting purity.

Open ERP accommodates either approach. Canceling an invoice can be permitted by checking the box ***Allow Cancelling Entries*** in the Journal corresponding to this invoice. You'll then be allowed to cancel the invoice if the following two conditions are met:

1 The accounting entries haven't been reconciled or paid: if they have then you'll have to cancel the reconciliation.
2 The accounting period or the fiscal year hasn't already been closed: if it has then no modification is possible.

Cancelling an invoice has the effect of automatically modifying the corresponding accounting entries.

When the invoice has been canceled you then have the possibility of putting it back into the `Draft` state. This means that you can modify it and approve it again later.

ADVICE Numbering invoices

Some countries require you to have contiguously number invoices with no break in the sequence. If, after canceling an invoice that you're not regenerating, you find yourself with a break in the numbering you must go and modify the sequence, redo the invoice and replace the sequence number with its original value.

You can control the sequences using the menu ***Administration > Custom > Sequences > Sequences***.

Attention: canceling an invoice will cause a break in the number sequence of your invoices. You're strongly advised to recreate this invoice and re-approve it to fill the hole in the numbering.

ADVANTAGE Duplicating a document

The duplication function can be applied to all the system documents: you can duplicate anything – a product, an order, or a delivery.

SOME POINTS

1 Duplicating invoices

Instead of entering a new invoice each time, you can base an invoice on a similar preceding one and duplicate it. To do this, first search for a suitable existing one. In the web client, show the invoice in read-only (non-editable) form view, then click ***Duplicate***. In the GTK client, select ***Form > Duplicate*** from the top menu.

The duplication creates a new invoice in the `Draft` state. That enables you to modify it before approving it. Duplicating documents in Open ERP is an intelligent function, which enables the duplicated invoice to be given its own sequence number, today's date, and the draft state, even if the preceding invoice has been paid.

2 Saving partner preferences

Open ERP has many functions to help you enter data quickly. If you invoice the same products frequently for the same partner you can save the last invoice preferences using conditional default values.

To test this functionality, create an invoice for a given partner and add several lines. Then click on the name on an invoice line and select ***Make this a default value***. Check the box that indicates this default should apply only to this partner.

Then the next time you establish an invoice for this partner the invoice lines will be automatically created and you'll only have to modify the quantities before confirming the invoice.

For taxes you're advised to put the default amount in the invoice lines (in France it would be 19.6%, in Belgium 21%, in the UK 17.5%). Doing this you won't forget to add tax when you're manually entering invoices.

3 Getting information from a right-click

As you're creating an invoice you'll often find you need extra information about the partner to help you complete the invoice. In Open ERP to obtain more information on any field all you need do is hold down the ***Ctrl*** key and click the right button on the mouse, and then Open ERP will automatically show you information linked to this partner, such as:

- tasks completed
- benefit details
- most recent invoices

- latest orders

Do the same to get information about the products you're invoicing,. For example: is there enough stock? When will you be getting more stocks in? What are the costs and normal list prices for this product?

By making this information easily accessible while you're invoicing, Open ERP greatly simplifies your work in creating the invoice.

Creating a supplier invoice

The form that manages supplier invoices is very similar to the one for customer invoices. However, it's been adapted to simplify rapid data entry and monitoring of the amounts recorded.

Method Entering data

Many companies don't code up supplier invoices but simply enter accounting data corresponding to the purchase journal.

This particularly applies to users that have focused on the accounting system rather than all the capabilities provided by an ERP system. The two approaches reach the same accounting result: some prefer one and others prefer the other depending on their skills.

However, when you use the Purchase Management functions in Open ERP you should work directly on invoices because they provide Purchase Orders or Goods Receipt documents.

To encode a new supplier invoice, use the menu ***Financial Management > Invoices > Supplier Invoice***.

Everything is similar to the customer invoice, starting with the ***Journal*** and then the ***Partner***, which will automatically complete the following fields:

- ***Invoice address***,
- partner ***Account***:

Unlike the customer invoice you don't have to enter payment conditions – simply a ***Due Date***. And if you don't give a due date, Open ERP assumes that this invoice will be paid in cash. If you want to code in more complete payment conditions than just due date you can use the ***Payment Term*** field which you can find on the second tab, ***Other Info***.

After that you enter the invoice ***Total*** with taxes included. Open ERP uses this amount to check whether all invoice lines have been entered correctly before it will let you validate the invoice.

Indicate the ***Currency*** if the invoice isn't going to use the default currency, then you can enter the ***Invoice lines***.

Just like the customer invoice you have the choice of entering all the information manually or using a product to complete many of the fields automatically. Entering a product, all of the following values are completed automatically:

- the product ***Account*** is completed from the properties of the product form or the Category of the product if nothing is defined on the product itself,
- the ***Taxes*** come from the product form and/or the partner form, based on the same principles as the customer invoice,
- the ***Quantity*** is set at 1 by default but can be changed manually,
- the ***Unit Price*** is calculated automatically from the total price after deducting all the different applicable taxes,

Click ***Calculate*** to verify that the different amounts correspond to those indicated on the paper invoice from the supplier. When you approve the invoice, Open ERP verifies that the total amount indicated in the header correspond to the sum of the amounts without tax on the invoice lines and the different applicable taxes.

> **Note The Calculate button**
>
> Even though you should calculate the invoice before approving it you don't have to push the ***Calculate*** button. If you approve the invoice directly the software calculates the different taxes itself and verifies the total.
>
> This button is only used for making a pre-check of the amount displayed before you confirm it finally.

Open ERP automatically completes the ***Date Invoiced*** and the accounting period, but you can still change these values manually in the second tab on the invoice before saving it.

> **Terminology Dates and Accounting Periods**
>
> Accounting periods are treated as legal period declarations. For example a tax declaration for an invoice depends on the accounting period and not on the date of invoicing.
>
> Depending on whether your declarations are made monthly or quarterly, the fiscal year contains either twelve or four accounting periods.
>
> The dates are shown in the document you created in the accounting system. They're used for calculating due dates.

The two pieces of information don't have to have the same date. Suppose for example that you receive an invoice on the 5th January but it's dated 31st December in the previous year by your supplier. In this case you can code it into the January accounting period and put the invoice date as 31st December. The due date will be based on the 31st December data, but the invoice will be recognized in the current fiscal year for the tax declaration.

You can find that the amounts don't correspond with what your supplier has given you on paper for reasons that can include:

- the supplier made a calculation error,
- the amounts have been rounded differently.

TECHNIQUE Rounding Tax

It often happens that a supplier adds 1 to the total because the tax calculation has been rounded upwards. Some tax amounts aren't valid because of this rounding.

For example it's impossible to arrive at the amount of 145.50 if you're working to a precision of 2 decimal places and a rate of 19.6%:

- 121.65 x 1.196 = 145.49
- 121.66 x 1.196 = 145.51

In this case you can modify a value in the lines that the total's based on, or the total amount of taxes at the bottom left of the form: both are editable so that you can modify them to adjust the total.

When the totals tally you can validate the invoice. Open ERP then generates the corresponding accounting entries. You can manage those entries using the ***Account*** fields on the invoice and on each of the invoice lines.

Credit Notes

Entering a customer credit note is almost identical to entering a customer invoice. You just start from the menu ***Financial Accounting > Invoices > Customer Refunds***.

Similarly, entering a supplier credit note is the same as that of the supplier invoice and so you use the menu ***Financial Accounting > Invoices > Supplier Refunds***.

It's easy to generate a credit note quickly from an existing invoice. To do this, select a customer or supplier invoice and click ***Refund invoice*** on the toolbar to the right. Open ERP opens a new credit note form for you in the `Draft` state so that you can modify it before approval.

NOTE Crediting several invoices

You can refund several invoices in one operation. From the web client you'd display a list of invoices and then click the checkboxes alongside the ones you want to refund. Then click the ***Refund invoice*** action from the Right toolbar.

In the GTK client you'd make a multiple selection of invoices by ***Ctrl***-clicking whichever lines you want to select. Then you'd execute the action by clicking the ***Action*** (gears) icon on the icon toolbar and selecting ***Refund invoice***.

Invoice payment

The invoice is automatically marked as paid by Open ERP once invoice entries have been reconciled with payment entries. You yourself don't have to mark the invoices as paid: Open ERP manages that when you reconcile your payments.

ADVICE Reconciling a credit note

Generally you reconcile the invoice's accounting entries with their payment(s). But you can also reconcile an invoice with the entries from the corresponding credit note instead, to mutually cancel them.

You've probably noticed the ***Pay Invoice*** action button in the toolbar to the right of the invoice form. This lets you enter payments and get entries reconciled very quickly. This functionality is usually employed by companies that use Open ERP as a simple billing system and not for complete accounting. They encode their payment on different invoices manually.

You probably shouldn't use this functionality if you have all of your accounting in Open ERP. It's much more convenient to manage the payment of invoices when you're entering bank statements and cash transactions. These allow better control of financial transactions and permit greater flexibility in areas such as:

- advance and partial payments of invoices,
- payment of several invoices by several payments,
- fine-grained management of different due dates on the same invoices,
- management of adjustments if there are different amounts to those on the invoice.

Accounting entries

Various methods of creating accounting entries can be used. You've already seen how an invoice creates its own entries, for example.

This section deals, in order, with

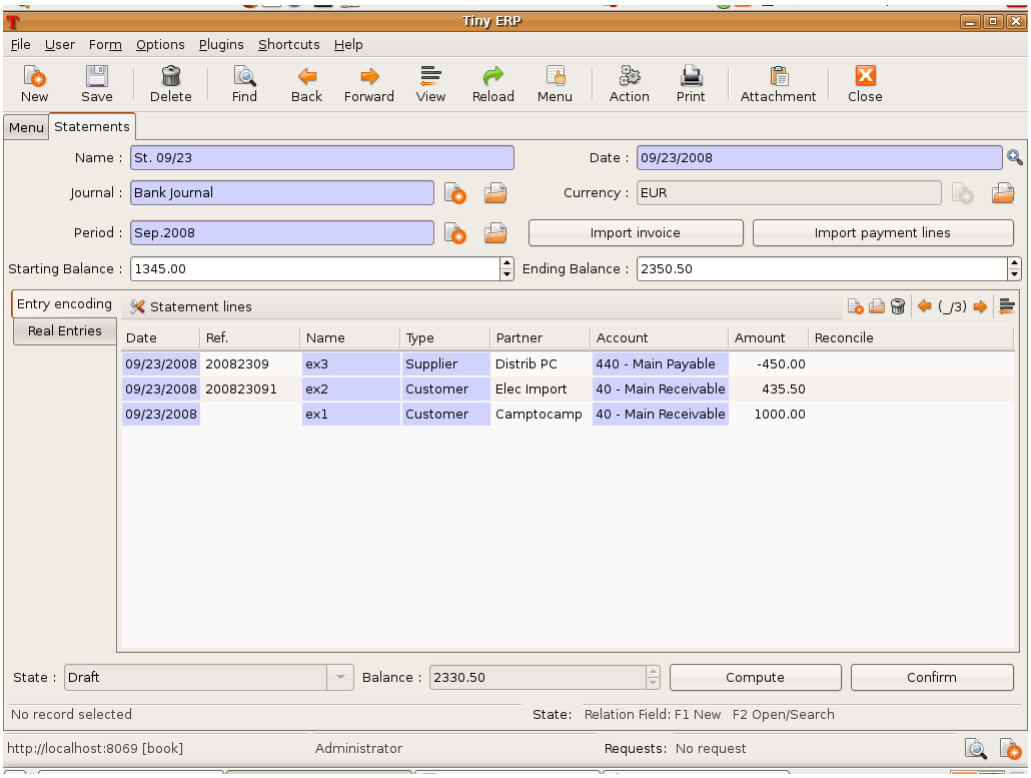
- managing bank statements,
- managing cash,
- manual journal entries,

You'll see here how to proceed with entering financial transactions. In Open ERP you use the same form for handling bank statements and for managing cash. The two types of transaction differ only in the journal that's used.

Managing bank statements

Open ERP provides a visual tool for managing bank statements that simplifies data entry into accounts. As soon as a statement entry is validated the corresponding accounting entries are automatically generated by Open ERP. This lets non-accounting people to enter financial transactions without fussing about such things as credit, debit and counterparts

Start by entering a statement line. To do that use the menu ***Financial Management > Entries > Statements***. A data entry form for statements then opens.


Tiny ERP
File User Form Options Plugins Shortcuts Help
New Save Delete Find Back Forward View Reload Menu Action Print Attachment Close
Menu Statements
Name : St. 09/23
Date : 09/23/2008
Journal : Bank Journal
Currency : EUR
Period : Sep.2008
Import invoice
Import payment lines
Starting Balance : 1345.00
Ending Balance : 2350.50
Entry encoding
Real Entries
Statement lines
Date Ref. Name Type Partner Account Amount Reconcile
09/23/2008 20082309 ex3 Supplier Distrib PC 440 - Main Payable -450.00
09/23/2008 200823091 ex2 Customer Elec Import 40 - Main Receivable 435.50
09/23/2008 ex1 Customer Camptocamp 40 - Main Receivable 1000.00
State : Draft
Balance : 2330.50
Compute
Confirm
No record selected
State: Relation Field: F1 New F2 Open/Search
http://localhost:8069 [book]
Administrator
Requests: No request

Data entry form for a bank statement

The statement reference (***Name***) and the ***Date*** are automatically suggested by Open ERP from the preceding statement line. You can configure your own reference by managing sequences in the Administration menu.

You must then select the ***Journal***. Ideally, when you're configuring your company you'd create at least one journal for each bank account and one journal for petty cash in your company. So select the journal corresponding to the bank account whose statement you're handling.

The currency that you're using for the statement line is that of the selected journal. If you're entering statement lines for an account in American dollars (USD) the amounts must be entered in `USD`. The currency is automatically converted to the company's main currency when you confirm the entry, using the rates in effect at the date of entry (which means that you'd need valid currency conversion rates to be created first).

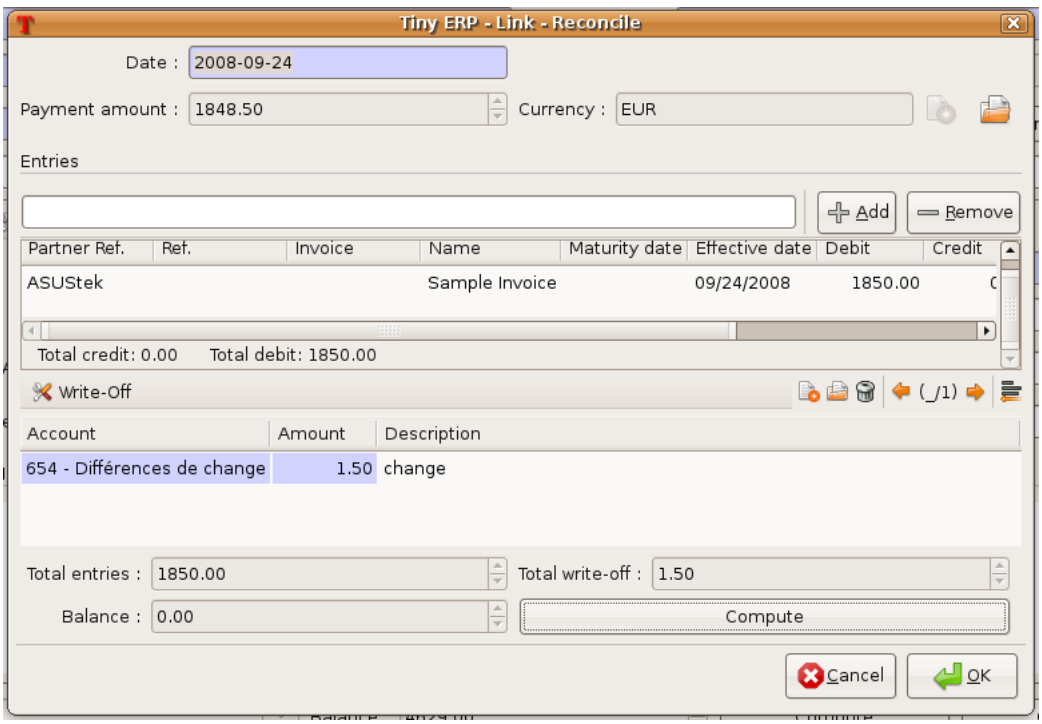
The initial balance is completed automatically by Open ERP based on the final balance of the preceding statement. You can modify this value and force another value. This enables you to enter statements in the order of your choice. Also if you've lost a page of your statement you can enter the following ones immediately and you're not forced to wait for a duplicate from the bank.

So, complete the final balance, which corresponds to the last value on the account after all of the statement entries. This amount will be the control for operations before approving the statement.

Then you must enter all the lines on the statement. Each line corresponds to a banking transaction.

Enter the transaction line. When you type the Partner name, Open ERP automatically proposes the corresponding account. The total amount due for the customer or supplier is pre-completed by Open ERP (***Amount***). This gives you a simple indication of the effective payment. You must the enter the amount that appears on your statement line: a negative sign for a withdrawal and a positive sign for a cash payment or deposit.

When the payment entry has been made it's possible to reconcile this directly with the accounting entry for the invoices. Press the ***Ctrl*** key on the keyboard (necessary for the web client, though not the GTK client) and then press the ***F1*** key while your cursor is in the ***Reconcile*** field on the payment line.



Reconciliation from data entry of the bank statement

The reconciliation form then appears. To the right you'll find the amount for payment. You must then select the invoices paid by this transaction (Entries). To enable you to reconcile this the amount of payment must correspond exactly with one or several due dates of invoice.

METHOD Reconciliation

Other methods of reconciliation are possible: from accounting entries, when saving the payment directly on an invoice, or using the automatic reconciliation tool. But if you can, you should do a reconciliation when you're encoding the payment because that's the time when you have all of the information you need to hand for reconciling the payment with the corresponding invoice

ATTENTION Partial reconciliation

In Open ERP, only total reconciliation is possible. To enter a partial payment for an invoice, several methods are given you:

- Don't reconcile that payment amount, just reconcile the entire balance.
- Reconcile at once, but make an accounting adjustment in the partner's credit account. In this case the invoice will be marked as paid.

If you see a difference between the payment and the invoices to reconcile, you can note the difference in the second part of the form – ***Write-off***. You must then indicate which account should be used for the adjustment. The main reasons explaining the difference are usually:

- losses and profits,
- exchange differences,
- discounts given for rapid payment.

When the reconciliation is complete, that's to say that the payment is equal to the sum of the due payments and the adjustments then you can close the reconciliation form.

The reconciliation operation is optional – you could very well do it later or not do it at all. It's got two significant effects, however:

- marking that the invoices have been paid,
- preventing the payment and invoice amounts from appearing on customer reminder letters. Unless you've reconciled them the customer will see the invoice and payment amounts on her reminder letter (which won't alter the balance due since they'll just cancel each other out).

Finally, once you have entered the various lines of your bank statement you can validate it. Open ERP then automatically generates the corresponding accounting entries if the balance calculated equals the final balance indicated in the header. The reconciled invoices are marked as paid at that point.

A user with advanced accounting skills can enter accounting entries directly into the bank journal. The resulting account is the same but the operation is more complex because you must know the accounts to use and must have mastered the ideas of credit and debit.

Cash Management

To manage cash, you use the same form as before. At the start of the day you must indicate the opening amount of cash in the entry (starting balance). Instead of confirming the entry immediately you can let it remain in the Draft state.

All the transactions throughout the day are then entered in this statement. When you close the cash till, generally at the end of the day, you must enter the amount found in the cash till in the field ***Final Balance***. Then confirm the statement to close the day's cash statement and automatically generate the corresponding accounting entries.

> **ATTENTION Validating the statement**
>
> Accounting entries are only generated when the statement is confirmed. So if the total statement hasn't been approved (that's to say at the end of the day, in the case of petty cash) you shouldn't be surprised if partner payments haven't been deducted from their corresponding account.

Manual entry in a journal

Invoices and statements produce accounting entries in different journals. But you could equally create entries directly in a journal without using the forms to help you. This functionality is often used for various entry transactions.

To do this, use the following menu: ***Financial Management > Entries > Journal Entries***. You can also use the menu ***Open Journals***, which is a shortcut from the journals or periods which already have accounting entries but which haven't yet been closed.

Select the journal and the accounting period. A window opens, enabling you to enter the accounting data in an editable list. You can then enter data from a supplier invoice.

As you'll recall, these entries are usually generated automatically by Open ERP. If you haven't created an invoice you'll have to enter values manually.

Fill these fields manually in this order:

- ***Effective Date***: invoice date,
- ***Move***: leave this empty so that Open ERP can fill it in automatically from the next number in sequence for line validations,
- ***Ref.***: reference from the supplier invoice,
- ***Partner Ref.***: partner concerned,
- ***Account***: account for the purchase line (`Products Purchase`),
- ***Name***: description of the invoice line (Titanium Alloy Radiator),
- ***Credit***: `1196`.

Press the Enter key on your keyboard to validate this first line. The next sequence number is assigned to your accounting entry. Your line is then colored red and takes the `Draft` state. When a line is in the draft state then it's not yet reflected in the accounts. Open ERP won't validate that line until the balancing entry is made (so the credit amounts must balance the debit amounts for that set of entries).

Open ERP now proposes the balancing accounting line to be filled in. If the account used (in this case account `600`) includes taxes by default in its definition Open ERP automatically proposes taxes associated with the amount entered. At this stage you can modify and validate this second line of the account, or replace it with other information such as a second purchase line.

When you've entered all of the data from your lines, Open ERP automatically proposes counterpart entries to you, based on the credit entries. If you validate it, the accounting entries are all matched together and the lines move from the `Draft` state (red) to the `Open` state (black).

> **NOTE Completing a balancing entry**
>
> When an accounting entry is matched, Open ERP moves it to the open state automatically and prepares to enter the next data.
>
> If you want to add some other balancing lines you can enter the number of the entry on the new line that you're entering. In this case the whole line stays at Draft until the whole set balances to zero.

Process of reconciliation

The reconciliation operation consists of matching entries in different accounts to indicate that they are related. Generally reconciliation is used for:

- matching invoice entries to payments so that invoices are marked as paid and customers don't get payment reminder letters (reconciliation in a customer account),
- matching deposits and chequewithdrawals with their respective payments,
- matching invoices and credit notes to cancel them out.

A reconciliation must be carried out on a list of accounting entries by an accountant, so that the sum of credits equals the sum of the debits for the matched entries.

Reconciliation in Open ERP can only be carried out in accounts that have been configured as reconcilable (the ***Reconcile*** field).

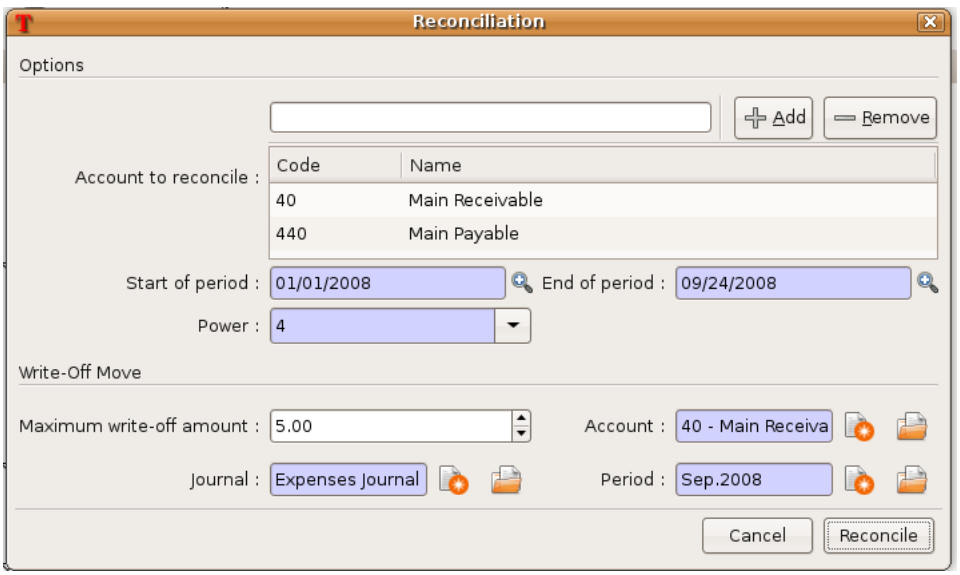
> **DON'T CONFUSE Account reconciliation and bank statement reconciliation**
>
> It's important not to confuse the reconciliation of accounting entries with bank statement reconciliation. The first consists of linking account entries with each other, while the second consists of verifying that your bank statement corresponds with the entries of that account in your accounting system.

There are different methods of reconciling entries. You've already seen the reconciliation of entries while doing data entry in an account. Automatic and manual reconciliations are described here.

Automatic reconciliation

For automatic reconciliation, you'll be asking Open ERP to make its own search for entries to reconcile in a series of accounts. It tries to find entries for each partner where the amounts correspond.

Depending on the level of complexity that you choose when you start running the tool, the software could reconcile from two to nine entries at the same time. For example, if you select level 5, Open ERP will reconcile three invoices and two payments if the total amounts correspond.



Form for automatic reconciliation

To start the reconciliation tool, click ***Financial management > Periodical Processing > Reconciliation > Automatic Reconciliation***.

A form opens, asking you for the following information:

- ***Account to reconcile***: you can select one, several, or all reconcilable accounts,
- the period to take into consideration (***Start of Period*** / ***End of Period***),
- the ***Reconciliation Power*** (from 2 to 9),
- information needed for the adjustment (details for the ***Write-Off Move***).

Note Automatic reconciliation

You can reconcile:

- all the Accounts Receivable – your customer accounts of type Debtor,
- all the Accounts Payable – your supplier accounts of type Creditor.

The adjustment option enables you to reconcile entries even if their amounts aren't exactly equivalent. For example, Open ERP permits foreign customers whose accounts are in different currencies to have a difference of up to 0.50 units of currency and put the difference in a write-off account.

ATTENTION Limit of write-off adjustments

You shouldn't make the adjustment limits too large. Companies that introduced substantial automatic write-off adjustments have found that all employee expense reimbursements below the limit were written off automatically!

NOTE Default values

If you start the automatic reconciliation tool regularly you should set the default values for each field by pressing the ***Ctrl*** key and using the right-click mouse button (when the form is in edit mode using the web client, or just using the GTK client). This means that you won't have to re-type all the fields each time.

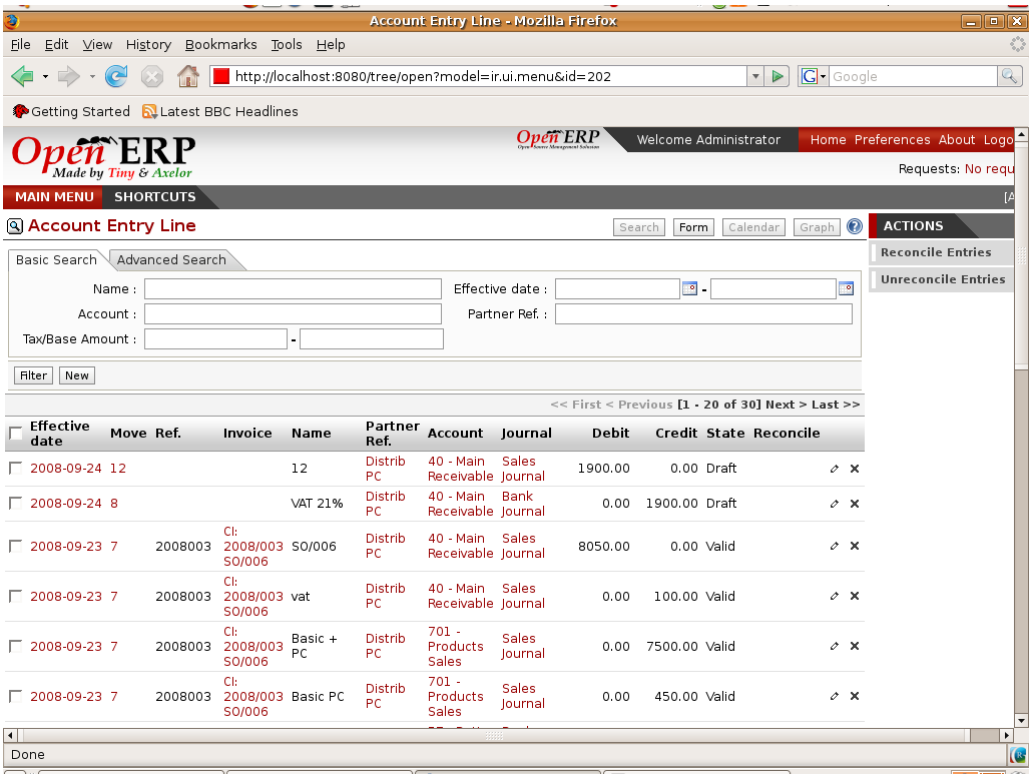
Manual reconciliation

For manual reconciliation, open the entries for reconciling an account through the menu ***Financial Management > Periodical Processing > Reconciliation > Manual Reconciliation***. You can also call up manual reconciliation from any screen that shows accounting entries.

Select entries that you want to reconcile. From the selection, Open ERP indicates the sum of debits and credits for the selected entries. When these are equal you can click the ***Reconcile Entries*** button to reconcile the entries.

EXAMPLE Real case of using reconciliation

Suppose that you're entering customer order details. At the moment you ask “what's outstanding on the customer account ?” (that is the list of unpaid invoices and unreconciled payments). To review it from the order form, right-click the mouse button on the Partner field and select the view Receivables and Payables. Open ERP opens a history of unreconciled accounting entries on screen.


Account Entry Line - Mozilla Firefox
File Edit View History Bookmarks Tools Help
http://localhost:8080/tree/open?model=ir.ui.menu&id=202
Getting Started Latest BBC Headlines
Open ERP
Made by Tiny & Axelor
Welcome Administrator Home Preferences About Logo
Requests: No requ
MAIN MENU SHORTCUTS
Account Entry Line
Search Form Calendar Graph
ACTIONS
Reconcile Entries
Unreconcile Entries
Basic Search Advanced Search
Name :
Account :
Tax/Base Amount :
Effective date :
Partner Ref. :
Filter New
<< First < Previous [1 - 20 of 30] Next > Last >>
Effective date Move Ref. Invoice Name Partner Ref. Account Journal Debit Credit State Reconcile
2008-09-24 12 12 Distrib PC 40 - Main Receivable Sales Journal 1900.00 0.00 Draft
2008-09-24 8 VAT 21% Distrib PC 40 - Main Receivable Bank Journal 0.00 1900.00 Draft
2008-09-23 7 2008003 CI: 2008/003 SO/006 SO/006 Distrib PC 40 - Main Receivable Sales Journal 8050.00 0.00 Valid
2008-09-23 7 2008003 CI: 2008/003 SO/006 vat Distrib PC 40 - Main Receivable Sales Journal 0.00 100.00 Valid
2008-09-23 7 2008003 CI: 2008/003 SO/006 Basic + PC Distrib PC 701 - Products Sales Sales Journal 0.00 7500.00 Valid
2008-09-23 7 2008003 CI: 2008/003 SO/006 Basic PC Distrib PC 701 - Products Sales Sales Journal 0.00 450.00 Valid
Done

History of entries for a partner

You notice an invoice for 1900 and a payment two weeks later of 1900 with the same reference. You can select the two lines in that view. The total at the bottom of the page shows you that the credit amount equals the debit amount for the selected line. Click ***Reconcile Entries*** to reconcile the two lines.

After this these lines can't be selected and won't appear when the entries are listed again. If there's a difference between the two entries, Open ERP suggests that you make an adjustment. This adjustment is a compensating entry that enables a complete reconciliation. You must therefore specify the journal and the account to be used for the adjustment.

For example, if you want to reconcile the following entries:

Entries for reconciliation

Date	Ref.	Description	Account	Debit	Credit
12 May	FAC23	Car hire	4010	544.50	

08					
25 May 08	FAC44	Car insurance	4010	100.00	
31 May 08	PAY01	Invoices n° 23, 44	4010		644.00

On reconciliation, Open ERP shows a difference of 0.50. At this stage you have two possibilities:

- don't reconcile, and the customer receives a request for 0.50,
- reconcile and accept an adjustment of 0.50 that you will take from the P&L account.

Open ERP generates the following account automatically:

Write-off account

Date	Ref.	Description	Account	Debit	Credit
03 Jun 08	AJ001	Adjustment: profits and losses	4010		0.50
03 Jun 08	AJ001	Adjustment: profits and losses	XXX	0.50	

The two invoices and the payment will be reconciled in the first adjustment line. The two invoices will then be automatically marked as paid.

Management of payments

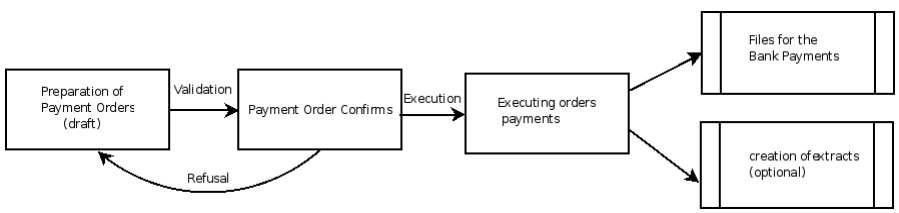
Open ERP gives you forms for preparing, validating and executing payment orders. This enables you to manage issues such as:

1 Payment provided on several due dates.
2 Automatic payment dates.
3 Separating payment preparation and payment approval in your company.
4 Preparing an order during the week containing several payments, then creating a payment file at the end of the week.
5 Creating a file for electronic payment which can be sent to a bank for execution.
6 Splitting payments dependent on the balances available in your various bank accounts.

Process for managing payment orders

To use the tool for managing payments you must first install the module `account_payment`. It's part of the core Open ERP system.

The workflow for managing payment is as follows:

1 

ıt

Workflow for handling payments to suppliers

The system enables you to enter a series of payments to be carried out from your various bank accounts. Once the different payments have been registered you can validate the payment orders. During validation you can modify and approve the the payment orders, sending the order to the bank for electronic funds transfer or just printing chequesas you wish.

For example if you have to pay a supplier's invoice for a large amount you can split the payments amongst several bank accounts according to their available balance. To do this you can prepare several Draft orders and validate them once you're satisfied that the split is correct.

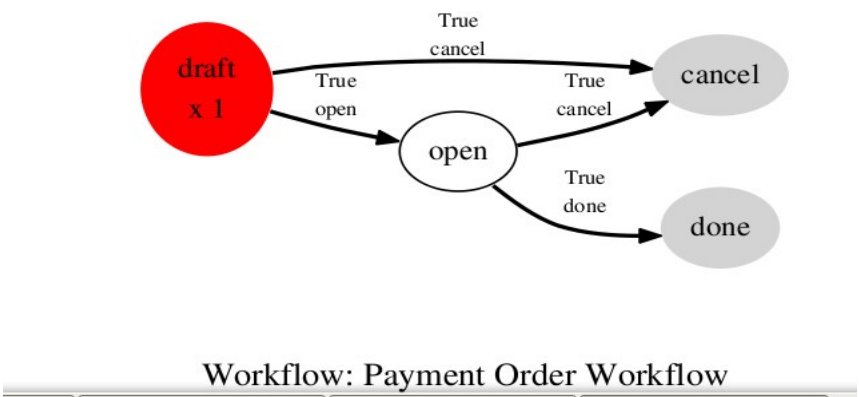
This process can also be regularly scheduled. In some companies, a payment order is kept in Draft state and payments are added to the draft list each day. At the end of the week it's an accountant's job to work on all of the waiting payment orders.

Once the payment order is confirmed there's still a validation step for an accountant to carry out. You could imagine that these orders would be prepared by an accounts clerk, and then approved by a manager to go ahead with payment.

A STEP FURTHER Payment Workflow

An Open ERP workflow is associated with each payment order. To see a visualization of it you'll have to use the GTK client. Select a payment order and click ***Plugins > Print workflow*** from the top menu.

You can integrate more complex workflow rules to manage payment orders by adapting the workflow. For example, in some companies payments must be approved by a manager under certain cash flow or value limit conditions.



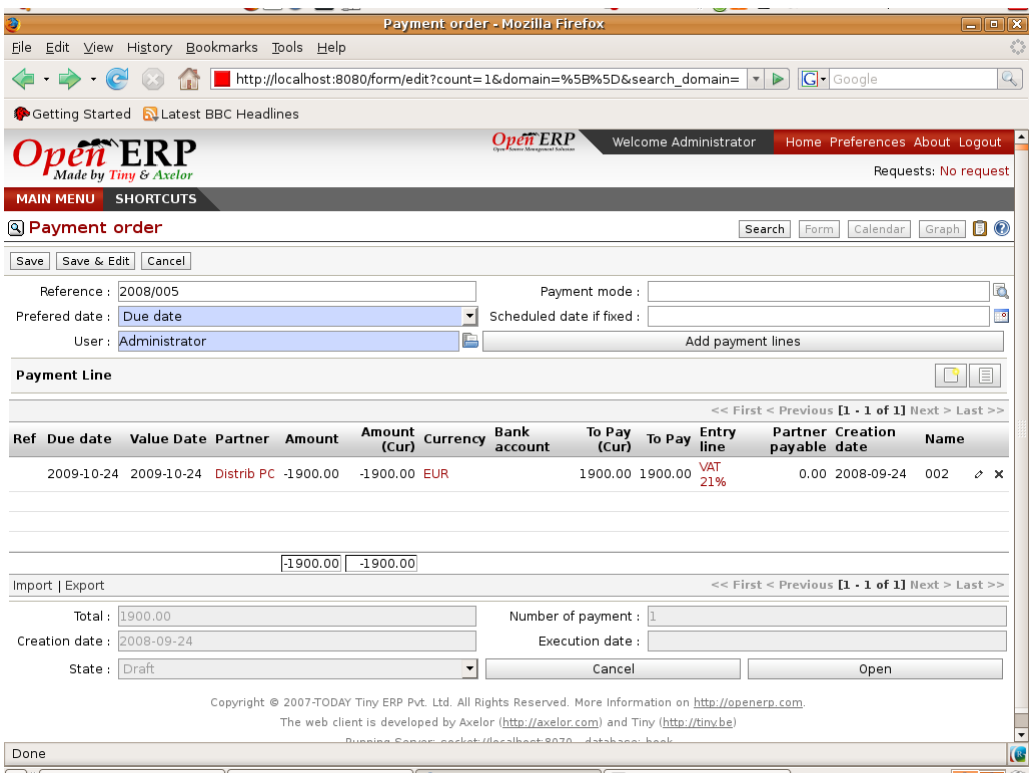
Payments workflow

When the accounting manager validates the document, Open ERP generates a banking file with all the payment orders. You can then just send the file over your electronic connection with your bank to execute all your payments.

In small businesses it's usually the same person who enters the payment orders and who validates them. In this case you should just click the two buttons, one after the other, to confirm the payment.

Preparation and execution of orders.

To enter a payment order, use the menu ***Financial Management > Payment > Payment Orders***.


Payment order - Mozilla Firefox
File Edit View History Bookmarks Tools Help
http://localhost:8080/form/edit?count=1&domain=%5B%5D&search_domain=
Getting Started Latest BBC Headlines
Open ERP
Made by Tiny & Axelor
Welcome Administrator
Home Preferences About Logout
Requests: No request
MAIN MENU SHORTCUTS
Payment order
Search Form Calendar Graph
Save Save & Edit Cancel
Reference : 2008/005
Payment mode :
Prefered date : Due date
Scheduled date if fixed :
User : Administrator
Add payment lines
Payment Line
Ref Due date Value Date Partner Amount Amount (Cur) Currency Bank account To Pay (Cur) To Pay Entry line Partner payable Creation date Name
2009-10-24 2009-10-24 Distrib PC -1900.00 -1900.00 EUR 1900.00 1900.00 VAT 21% 0.00 2008-09-24 002
-1900.00 -1900.00
Import | Export
Total : 1900.00
Number of payment : 1
Creation date : 2008-09-24
Execution date :
State : Draft
Cancel
Open
Copyright © 2007-TODAY Tiny ERP Pvt. Ltd. All Rights Reserved. More Information on http://openerp.com.
The web client is developed by Axelor (http://axelor.com) and Tiny (http://tiny.be)
Done

Entering a payment order

Open ERP then suggests a reference number for your payment order. As usual, you can change the start point for this sequence from the ***Administration*** menu.

You then have to choose a payment mode from the various methods available to your company. These have to be configured when you set the accounting system up using menus ***Financial Management > Configuration > Payment Type*** and ***Financial Management > Configuration > Payment Mode***. Some examples are:

- Cheques

- Bank transfer,
- Visa card on a FORTIS account,
- Petty cash.

Then you must indicate the ***Preferred date*** for payment:

- `Due date`: each operation will be effected at the invoice deadline date,
- `Directly`: the operations will be effected when the orders are validated,
- `Fixed date`: you must specify an effective payment date in the ***Scheduled date if fixed*** field that follows.

The date is particularly important for the preparation of electronic transfers because banking interfaces enable you to select a future execution date for each operation. So to configure your Open ERP most simply you can choose to pay all invoices automatically by their deadline.

You must then select the invoices to pay. They can be manually entered in the field ***Payment Line*** but it's easier to add them automatically. For that, click ***Add payment lines*** and Open ERP will then propose lines with payment deadlines. For each deadline you can see:

- the invoice ***Effective date***,
- the reference ***Ref.*** and description of the invoice, ***Name***,
- the deadline for the invoice,
- the amount to be paid in the company's default currency,
- the amount to be paid in the currency of the invoice.

You can then accept the payment proposed by Open ERP or select the entries that you'll pay or not pay on that order. Open ERP gives you all the necessary information to make a payment decision for each line item:

- account,
- supplier's bank account,
- amount that will be paid,
- amount to pay,
- the supplier,
- total amount owed to the supplier,
- due date,
- date of creation.

You can modify the first three fields on each line: the account, the supplier's bank account and the amount that will be paid. This arrangement is very practical because it gives you complete visibility of all the company's trade payables. You can pay only a part of an invoice, for example, and in preparing your next payment order Open ERP automatically suggests payment of the remainder owed.

When the payment has been prepared correctly, click ***Confirm***. The payment then changes to the `Open` state and a new button appears that can be used to start the payment process. Depending on the chosen payment method, Open ERP provides a file

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containing all of the payment orders. You can send this to the bank to make the payment transfers.

In future versions of Open ERP it's expected that the system will be able to prepare and print cheques.

7

Financial Analysis

7

Financial Analysis

Summary

- Managing creditors and debtors
- Taxes
- Management Control and Financial Analysis

Keywords

- creditors / accounts payable
- debtors / accounts receivable
- escalation
- reports
- taxes
- management control
- analysis
- financial indicators
- budgets

This chapter is devoted to statutory taxation and financial reporting from Open ERP. Whether you need reports about customers and suppliers, or statements for various statutory purposes, Open ERP enables you to carry out a whole range of parametric analyses of the financial health of your company.

Whether you want to analyze the general health of your company or review the status of an Account Receivable in detail, your company's accounts are the place to define your various business indicators.

To bring you the most accurate picture of your business, Open ERP's different accounting reports are flexible, and the results are calculated in real time. This enables you to automate recurring actions and to change your operations quickly when a company-wide problem (such cash reserves dropping too low, or receivables climbing too high) or a local problem (a client that hasn't paid, or a project budget overspend) occurs.

So this chapter describes the various reports and financial statements supplied by Open ERP's accounting module. It also describes how Open ERP handles purchase and sales taxation, and the reporting of taxation.

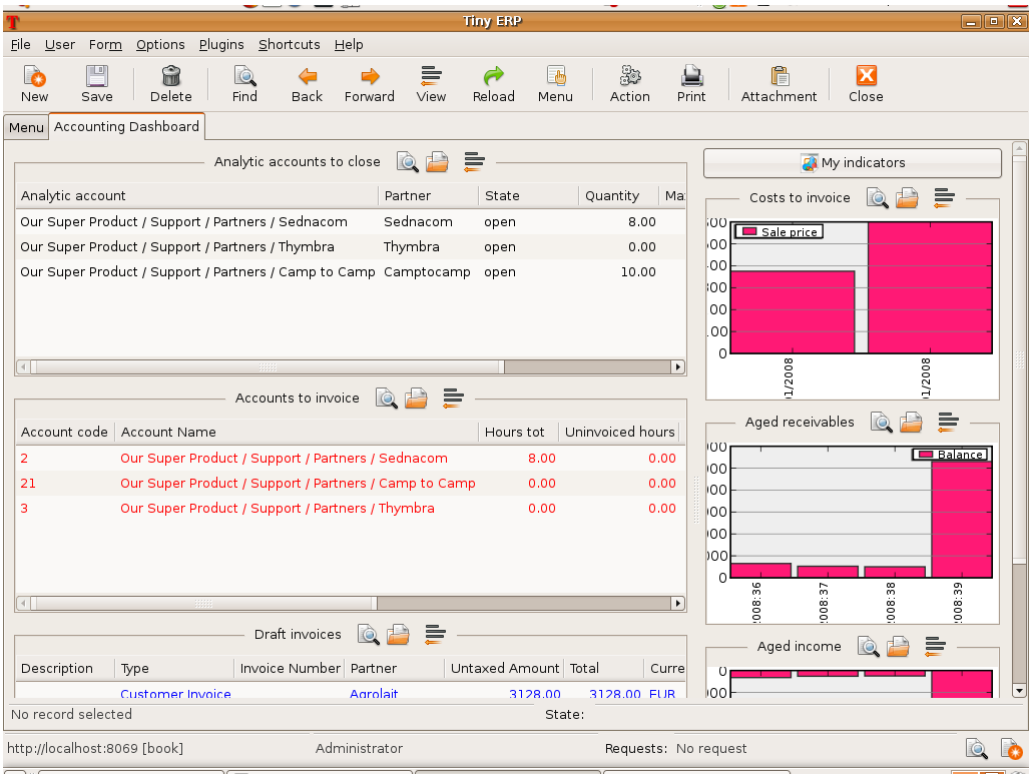
Managing accounts payable / creditors and accounts receivable / debtors

Open ERP provides numerous tools for managing customer and supplier accounts. You'll see here:

- financial analysis of partners, to understand the reports that enable you to carry out an analysis of all of your partners,
- multi-level reminders, which is an automatic system for preparing reminder letters or emails when invoices remain unpaid,
- detailed analysis of individual partners.

Financial analysis of partners

When members of your accounts department sign on to the Open ERP system, they're immediately presented with the ***Accounting Dashboard.*** By default it contains a useful graph for analyzing Receivables. To get access to it, install the module `board_account`. Then look at it using the menu ***Dashboards > Accounting > Accounting Dashboard***.

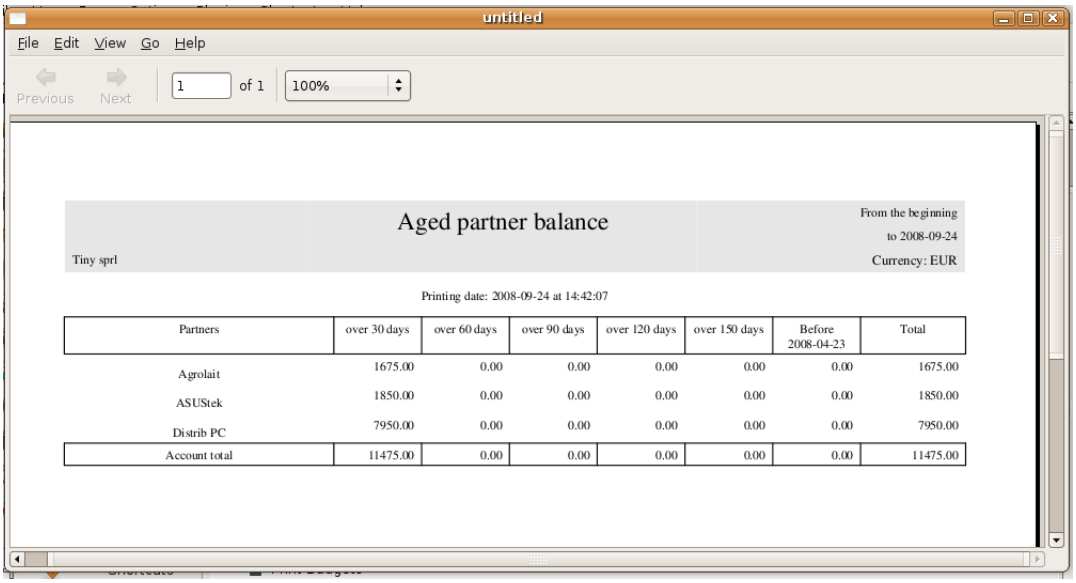

Tiny ERP
File User Form Options Plugins Shortcuts Help
New Save Delete Find Back Forward View Reload Menu Action Print Attachment Close
Menu Accounting Dashboard
Analytic accounts to close
Analytic account Partner State Quantity
Our Super Product / Support / Partners / Sednacom Sednacom open 8.00
Our Super Product / Support / Partners / Thymbra Thymbra open 0.00
Our Super Product / Support / Partners / Camp to Camp Camptocamp open 10.00
Accounts to invoice
Account code Account Name Hours tot Uninvoiced hours
2 Our Super Product / Support / Partners / Sednacom 8.00 0.00
21 Our Super Product / Support / Partners / Camp to Camp 0.00 0.00
3 Our Super Product / Support / Partners / Thymbra 0.00 0.00
Draft invoices
Description Type Invoice Number Partner Untaxed Amount Total Curre
Customer Invoice Agrolait 3128.00 3128.00 EUR
My indicators
Costs to invoice
Sale price
Aged receivables
Balance
Aged income
No record selected
State:
http://localhost:8069 [book]
Administrator
Requests: No request

Accounting Dashboard

In the dashboard, the graph at the right entitled ***Aged Receivables*** represents your receivables week by week. That shows you at a glance the cumulative amount of your customer debtors by week.

All of Open ERP's graphs are dynamic. So you can, for example, filter the data by clicking ***Zoom*** and then ***Filter*** on the Search form. Or just click on ***Zoom*** to open in a larger window for a graph, then click ***Search*** to display this in a list view.

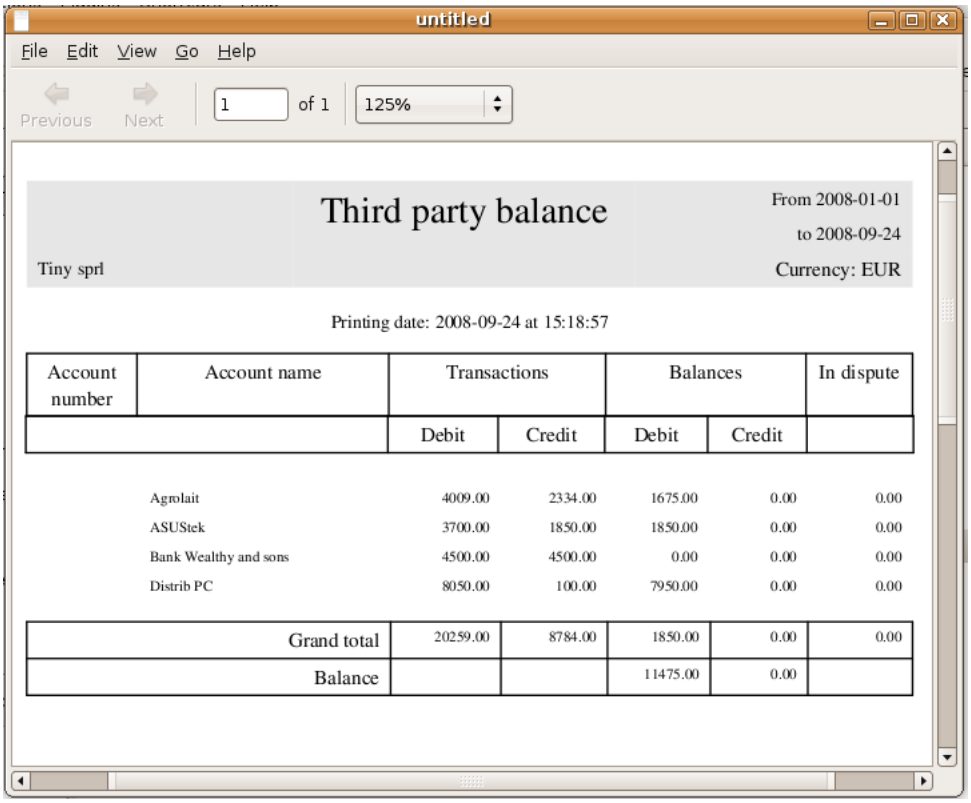
To obtain a more detailed report of the aged balance (or order by past date) use the menu ***Finance > Accounting > Reporting > Partner Accounts > Aged Partner balance***.



Aged balance using a 30 day period

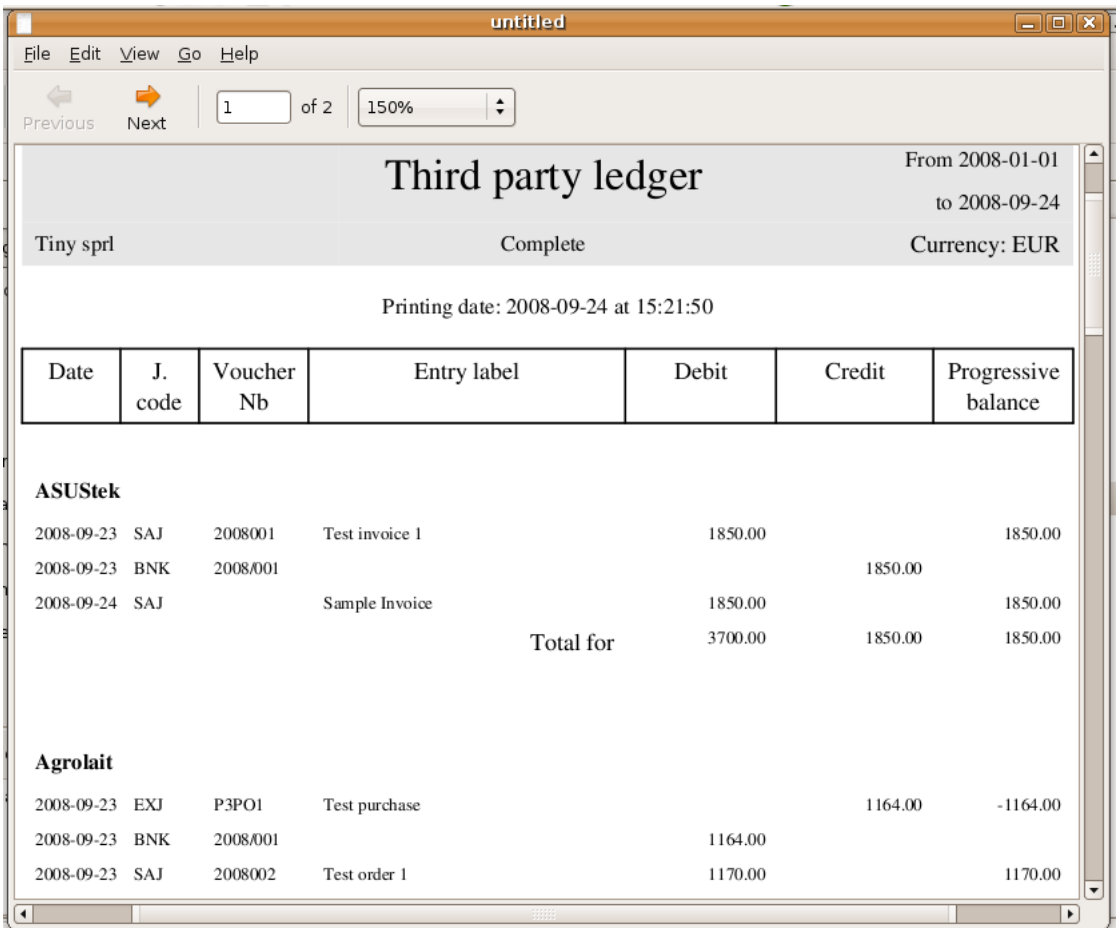
When opening that report, Open ERP asks for the name of the company, the fiscal period and the size of the interval to be analyzed (in days). Open ERP then calculates a table of credit balance by period. So if you request an interval of 30 days Open ERP generates an analysis of creditors for the past month, past two months, and so on.

For an analysis by partner you can use the partner balance that you get through the menu ***Financial Management > Reporting > Partner Accounts > Partner balance***. The system then supplies you with a PDF report containing one line per partner representing the cumulative credit balance.



Partner balances

If you want detailed information about a partner you can use the partner ledgers that you reach through the menu ***Financial Management > Reporting > Partner Accounts > Partner Ledger***.



Partner ledger

Finally you can look up individual account entries by searching for useful information. To search for account entries:

- by journal, go through the menu ***Financial Management > Entries > Entries by journal***,
- by account, go through the menu ***Financial Management > Charts > Chart of Accounts*** and double-click the appropriate account,
- by making a global search, go through the menu ***Financial Management > Entries > Search Entries***
- by partner, do it by right-clicking on the Partner field in any form that shows it, or by using the buttons to the right of the partner form.

ADVANTAGE Exporting entries

It's helpful to remember that you can export all types of resource in Open ERP. From the web client you need to navigate to a search list for the resource then click the ***Export*** link at the bottom left of

the list. From the GTK client you'd use the menu ***Form > Export***. This enables you to easily make your own analysis in Microsoft Excel or OpenOffice.org Calc, by exporting accounting entries.

Multi-step follow-ups

To automate the management of followups (reminders) you must install the module `account_followup`. This is installed automatically as part of the accounting profile, but is not part of the other profiles.

Once the module is installed configure your levels of followup using the menu ***Financial Management > Configuration > Payment Terms > Follow-Ups***.

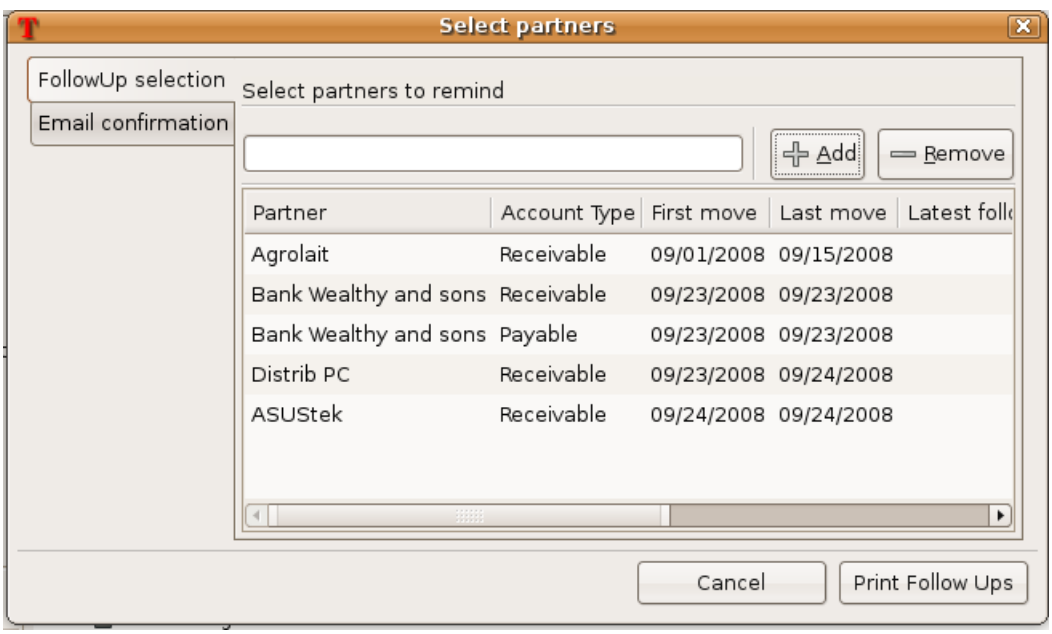
The levels of follow-up are relative to the date of creation of an invoice and not the due date. This enables you to put payment conditions such as 'payable in 21 days' and send a reminder in 30 days, or the converse.

For each level you should define the number of days and create a note which will automatically be added into the reminder letter. The sequence determines the order of the level in ascending order.

Example of configuring followup levels

Sequence	Level	Days	Description
1	Level 1	30 days net	First payment reminder
2	Level 2	45 days net	Second reminder
3	Level 3	60 days from end of month	Put on notice

You can send your reminders by mail and/or email with the menu ***Financial Management > Periodic Handling > Send Follow-Ups***.



Form for preparing follow-up letters

Open ERP presents you with a list of partners who are due reminders, which you can modify before starting the procedure. On the second tab of the form you can supply the information you'll send in the email reminder.

The system then gives you a PDF report with all of the reminder letters for each partner. Each letter is produced in the language of the partner (if that's available) and you can therefore get letters in several languages in the same PDF on several pages.

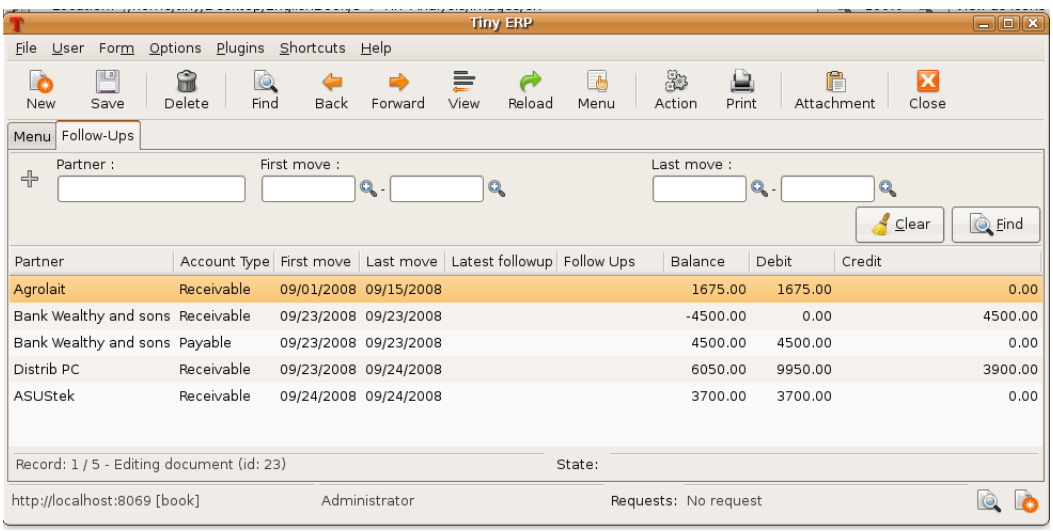
To analyze the due date of customers and/or suppliers before starting the reminder procedure, use the submenus of ***Financial Management > Periodical Processing > Send Follow-Ups***:

- ***Receivable entries***,
- ***Payable entries***.

So you obtain the list of unreconciled entries in Receivable and Payable type accounts. You can then modify the date and the last follow-up and the level of reminder for each entry.

To obtain a detailed report per partner use the menu ***Financial Management > Reporting > Follow-Ups***.

The different reports are classic Open ERP screens, so you can filter them and explore the elements in detail.


Tiny ERP
File User Form Options Plugins Shortcuts Help
New Save Delete Find Back Forward View Reload Menu Action Print Attachment Close
Menu Follow-Ups
Partner :
First move :
Last move :
Clear Find
Partner Account Type First move Last move Latest followup Follow Ups Balance Debit Credit
Agrolait Receivable 09/01/2008 09/15/2008 1675.00 1675.00 0.00
Bank Wealthy and sons Receivable 09/23/2008 09/23/2008 -4500.00 0.00 4500.00
Bank Wealthy and sons Payable 09/23/2008 09/23/2008 4500.00 4500.00 0.00
Distrib PC Receivable 09/23/2008 09/24/2008 6050.00 9950.00 3900.00
ASUStek Receivable 09/24/2008 09/24/2008 3700.00 3700.00 0.00
Record: 1 / 5 - Editing document (id: 23)
State:
http://localhost:8069 [book]
Administrator
Requests: No request

Summary screen for follow-ups

Partner situation

In daily use of Open ERP a senior manager will often need to search quickly for financial information amongst partner data. For this she can use the buttons to the right of form when she opens a partner form, to go directly to:

- a follow-up letter from the ***Overdue payments*** Report button,

- the list of ***Open Invoices***,
- a shortcut to ***All account entries***,
- the unclosed CRM requests from ***Open cases***,
- a shortcut to the unreconciled ***Receivables and Payables***.

These links are also available to her when she right-clicks the mouse on a partner field on any form.

The ***Overdue payments*** report produces a PDF document which is used for follow-up but it doesn't modify any of the partner's accounting entries. It's use doesn't increase the follow-up level so you can use this report repeatedly without any problem.

In Open ERP you can search for a partner on the basis of the value of its trade receivables. So search for partners with a credit amount between 1 and 99999999 and you'll get a list of partners that owe you payment. You can then select the whole list and print follow-up letters for them all.

To the right of the partner form there's a shortcut to ***Open invoices***. This link includes all of the invoices defined in the systems, namely:

- customer invoices,
- supplier invoices,
- credit notes,
- supplier credit notes.

> **ADVICE Reminders from accounting entries**
>
> Companies that do not have computerized records tend to keep track of payments from invoices and paperwork and not from a formal partner account
>
> It's better to create reminder letters from a partner's account receivable than from unpaid bills, however. By using the Open ERP system you can easily take account of all advances, unreconciled payments, credit notes and credit payments.
>
> So it's better to send a letter based on the accounting entries of invoices and unreconciled payments than just on a list of unpaid invoices.

In the links appearing on the partner form, two buttons enable the opening of partner accounting entries:

- ***All account entries***,
- ***Receivables & Payables***.

The first button is useful for obtaining a historical analysis of the customer or supplier. You can get information about such significant items as sales volume and payment delays. The second button is a filter which shows only the open trade credits and debits for the partner.

Finally, keep in mind that all of the functions on the partner form are accessible from any Open ERP document by right-clicking with the mouse on a Partner field. This is extremely useful for gaining rapid access to information from any screen.

Statutory taxes and accounts

This section deals with statutory taxes and accounts which are legally required from the company:

- the taxation structure provided by Open ERP,
- the accounts ledgers,
- account balance (used to produce the income statement and balance sheet),
- the different journals (general, centralized and detailed),
- the tax declaration.

> **A STEP FURTHER Other declarations**
>
> In addition to the legal declarations available in the accounts modules, Open ERP supplies declarations based on the functionality in other modules.
>
> You can, for example, install the `report_intrastat` module for intra-stat declarations about sending goods to and receiving goods from other countries.

Taxation

You can attach taxes to financial transactions so that you can

- add taxes to the amount that you pay or get paid,
- report on the taxes in various categories that you should pay the tax authorities,
- track taxes in your general accounts,
- manage the payment and refund of taxes using the same mechanisms that Open ERP uses for other monetary transactions.

Since the detailed tax structure is a mechanism for carrying out governments' policies, and the collecting of taxes so critical to their tax authorities, tax requirements and reporting can be complex. Open ERP has a flexible mechanism for handling taxation that can be configured through its GUI or through data import mechanisms to meet the requirements of many various tax jurisdictions.

The taxation mechanism can also be used to handle other tax-like financial transactions, such as royalties to authors based on the value of transactions through an account.

Setting up a tax structure

Three main objects are involved in the tax system in Open ERP:

- a ***Tax Case*** (or ***Tax Code***), used for tax reporting, that can be set up in a hierarchical structure so that multiple codes can be formed into trees in the same way as a Chart of Accounts.
- a ***Tax***, the basic tax object that contains the rules for calculating tax on the financial transaction it's attached to, and is linked to the General Accounts and to the Tax Cases. A tax can contain multiple child taxes and base its calculation

on those taxes rather than the base transaction, providing considerable flexibility. Each tax belongs to a ***Tax Group*** (currently just `VAT` or `Other`).

- the ***General Accounts***, that record the taxes owing and paid. Since the general accounts are discussed elsewhere in this part of the book and are not tax-specific, they won't be detailed in this section.

You can attach zero or more ***Supplier Tax***es and Customer taxes to products, so that you can account separately for purchase and sales taxes (or Input and Output VAT – where VAT is Value Added Tax). Because you can attach more than one tax, you can handle a VAT or Sales Tax separately from an Eco Tax on the same product.

You can also attach a ***Default Tax*** to a partner, which replaces any taxes belonging to the same Tax Group that may have been defined in a Product.

So you can define a `Tax Exempt` tax in the `VAT` group and assign it to partners who declare themselves to be charities. All product sales to a charity would then be VAT free even if the products themselves carry various tax rates, but non-VAT taxes such as Eco-taxes can still be applied.

Tax Cases

Tax Cases are also known in Open ERP as Tax Codes. They're used for tax reporting, and can be set up in a hierarchical structure to form trees in the same way as a Chart of Accounts.

To create a new Tax Case, use the menu ***Financial Management > Configuration > Taxes > Tax Codes***. You define the following fields:

- ***Tax Case Name***: a unique name required to identify the Case,
- ***Company***: a required link that attaches the Case to a specific company, such as the Main Company,
- ***Case Code***: a short code for the case,
- ***Parent Code***: a link to a parent Tax Case that forms the basis of the tree structure like a Chart of Accounts,
- ***Sign for Parent***: choose 1.00 to add the total to the parent account or -1.00 to subtract it,
- ***Description***: a free text field for documentation purposes.

You can also see two read-only fields:

- ***Year Sum***: a single figure showing the total accumulated on this case for the financial year.
- ***Period Sum***: a single figure showing the total accumulated on this case for the current financial period (perhaps 1 month or 3 months).

You will probably need to create two tax cases for each different tax rate that you have to define, one for the tax itself and one for the invoice amount that the tax is based on. And you'll create tax cases that you won't link to Tax objects (similar to General Account `View` types) just to organize the tree structure.

To view the structure that you've constructed you can use the menu ***Financial Management > Periodical Processing > Taxes***. This tree view reflects the structure of the Tax Cases and shows the current tax situation.

Tax objects

Tax objects calculate tax on the financial transactions that they're attached to, and are linked to the General Accounts and to the Tax Cases.

To create a new Tax Case, use the menu ***Financial Management > Configuration > Taxes > Taxes***. You define the following fields:

- ***Tax Name***: a unique name required for this tax (such as `12% Sales VAT`),
- ***Company***: a required link to a company associated with the tax, such as the Main Company,
- ***Tax Group***: `VAT` or `Other`, used to determine which taxes on products can be substituted by taxes on partners,
- ***Tax Type***: a required field directing how to calculate the tax: `Percent`, `Fixed`, `None` or `Python Code`, (the latter is found in the ***Compute Code*** field in the ***Special Computation*** tab),
- ***Applicable Type***: a required field that indicates whether the base amount should be used unchanged (when the value is `True`) or whether it should be processed by Python Code in the ***Applicable Code*** field in the ***Special Computation*** tab when the value is `Code`),
- ***Amount***: a required field whose meaning depends on the Tax Type, being a multiplier on the base amount when the ***Tax Type*** is `Percent`, and a fixed amount added to the base amount when the ***Tax Type*** is `Fixed`,
- ***Include in base amount***: when checked, the tax is added to the base amount and not shown separately,
- ***Domain***: is only used in special developments, not in the core Open ERP system,
- ***Invoice Tax Account***:a General Account used to record invoiced tax amounts, which may be the same for several taxes or split so that one tax is allocated to one account,
- ***Refund Tax Account***: a General Account used to record invoiced tax refunds, which may be the same as the Invoice Tax Account or, in some tax jurisdictions, must be separated,
- ***Tax on childs***: when checked, the tax calculation is applied to the output from other tax calculations specified in the ***Childs Tax Account*** field (so you can have taxes on taxes), otherwise the calculation is applied to the base amount on the transaction,
- ***Childs Tax Account***: other tax accounts that can be used to supply the figure for taxation.

> **NOTE Using Child Taxes**
>
> You can use child taxes when you have a complex tax situation that you want to hide your end users from. For example, you might

define a motor mileage expenses product with a composite tax made up of two child taxes – a non-reclaimable private element and a reclaimable tax element (which is the case in some European countries).

When your staff come to claim motor mileage, they do not need to know about this taxation, but the accounting impact of their claim will be automatically managed in Open ERP.

The fields above apply the taxes that you specify and record them in the general accounts but don't provide you with the documentation that your tax authorities might need. For this use the Tax Declaration tab to define which Tax Cases should be used for this tax:

- ***Invoices/Base Code***: tax case to record the invoiced amount that the tax is based on,
- ***Invoices/Tax Code***: tax case to record the invoiced tax amount
- ***Refund Invoices/Base Code***: tax case to record the refund invoice amount that the tax is based on,
- ***Refund Invoices/Tax Code***: tax case to record the refund invoice tax amount.

Use of Taxes on Products, Partners, Projects and Accounts

When you've created a tax structure consisting of Tax Cases and Tax objects, you can use the taxes in your various business objects so that financial transactions can be associated with taxes and tax-like charges.

ADVICE Retail Customers

When you're retailing to end users rather than selling to a business, you may want to (or be required to) show tax-inclusive prices on your invoicing documents rather than a tax-exclusive price plus tax.

To do this in Open ERP just install the `account_tax_include` module. Each invoice is given a new ***Price method*** field, in which you choose `Tax included` or `Tax excluded`. Prices are then displayed appropriately.

You can assign a tax to a Partner so that it overrides any tax defined in a Product. You'd do this, for example, if a partner was a charity and paid a lower or zero rate of VAT or Sales Tax on its purchases. Assuming that you have an appropriate Charities VAT or Sales Tax in the `VAT` ***Tax Group***, use the menu ***Partners > Partners*** to open and edit a Partner form for the charity, then:

- select the ***Properties*** tab,
- set the ***Default Tax*** field to the `Charities VAT` tax.

You can assign multiple taxes to a Product. Assuming you have set up the appropriate taxes, you would use the menu ***Products > Products*** to open and edit a Product definition, then:

- select one or more ***Customer Taxes*** for any products that you might sell, which may include a `Sales Tax` or `Output VAT`, and a `Sales Eco Tax`,

- select one or more ***Supplier Taxes*** for any products that you might purchase, which may include a `Purchase Tax` or `Input VAT`, and a `Purchase Eco Tax`.

Generally, when you make a purchase or sale, the taxes assigned to the product are used to calculate the taxes owing or owed. But when you make a transaction with a partner that has a ***Default Tax*** defined, for example a sale to a charity with `Charities Tax`, that tax will be used in place of other Product taxes in the same group – in this case replacing the standard `Sales Tax` or `Output VAT`.

You can also assign multiple taxes to a Project, so that invoices from the Project carry an appropriate rate of tax (project invoicing is dealt with in detail in a later chapter).

A STEP FURTHER Tax regions

The third-party module `import_export` can be used to extend Open ERP's tax system, so that you can assign taxes to different accounts depending on the location of the Partner. The Partner is given a new ***Partner Location*** field that can be set to `Local`, `Europe` or `Outside`, so that taxes and tax bases can be channeled to different accounts.

This module could be the basis of more ambitious location-based tax accounting.

And you can assign multiple taxes to an account so that when you transfer money through the account you attract a tax amount. In such a case, this 'tax' may not be legally-required taxation but something tax-like, for example authors' royalties or sales commission.

The accounts ledgers and the balance sheet

To print the balance of accounts or the accounts ledgers you should turn to the Chart of Accounts. To do that go to the menu ***Financial Management > Charts > Charts of Accounts***.

Select the accounting period you're interested in and click ***Open Charts***, then select one or several accounts for analysis by clicking and highlighting the appropriate line(s). Click the ***Print*** button and Open ERP asks you to select either the ***General Ledger***, the ***Account balance***, or an ***Analytic check***. If you select an account which has sub-accounts in the hierarchy you can automatically analyze that account and its child accounts.

ADVANTAGE Simulated balance

While you're printing account balances, if you have installed the `account_simulation` module Open ERP asks you which level of simulation to execute.

Results will vary depending on the level selected. You can, for example, print the balance depending on various methods of amortization:

- the normal IFRS method,
- the French method.

More generally it enables you to make analyses using other simulation levels that you could expect..

At the moment of writing this book a new module is in the final stages of development for Open ERP – `account_reporting`. It's being developed to enable the use of configurable reports for balance sheets or earnings statement in legally required formats.

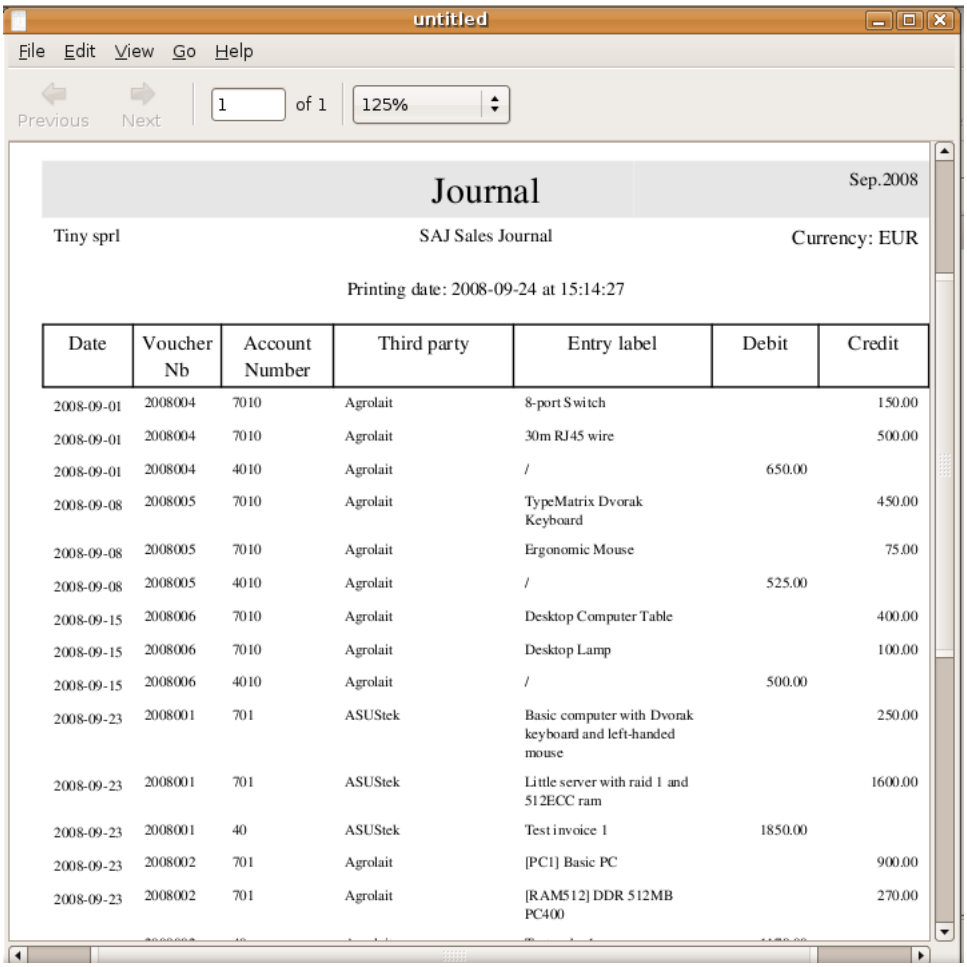
The accounting journals

To obtain the different journals use the menu ***Financial Management > Reporting > Printing Journals***.

> **Terminology Journals**
>
> Note there are different types of journal in Open ERP
>
> - accounting journals (detailed in this chapter),
> - purchase journals (for distributing supplies provided or on certain dates),
> - sales journals (for example classifying sales by their type of trade),
> - the invoice journals (to classify sales by mode of invoicing: daily / weekly / monthly) and automating the tasks.
>
> To obtain these different journals install the modules `sale_journal` and `purchase_journal`.

Then select one or several journals and click ***Print***. Open ERP then proposes the three following reports:

- detailed accounting entries,
- general journal,
- journal grouped by account.



Date	Voucher Nb	Account Number	Third party	Entry label	Debit	Credit
2008-09-01	2008004	7010	Agrolait	8-port Switch		150.00
2008-09-01	2008004	7010	Agrolait	30m RJ45 wire		500.00
2008-09-01	2008004	4010	Agrolait	/	650.00	
2008-09-08	2008005	7010	Agrolait	TypeMatrix Dvorak Keyboard		450.00
2008-09-08	2008005	7010	Agrolait	Ergonomic Mouse		75.00
2008-09-08	2008005	4010	Agrolait	/	525.00	
2008-09-15	2008006	7010	Agrolait	Desktop Computer Table		400.00
2008-09-15	2008006	7010	Agrolait	Desktop Lamp		100.00
2008-09-15	2008006	4010	Agrolait	/	500.00	
2008-09-23	2008001	701	ASUStek	Basic computer with Dvorak keyboard and left-handed mouse		250.00
2008-09-23	2008001	701	ASUStek	Little server with raid 1 and 512ECC ram		1600.00
2008-09-23	2008001	40	ASUStek	Test invoice 1	1850.00	
2008-09-23	2008002	701	Agrolait	[PC1] Basic PC		900.00
2008-09-23	2008002	701	Agrolait	[RAM512] DDR 512MB PC400		270.00

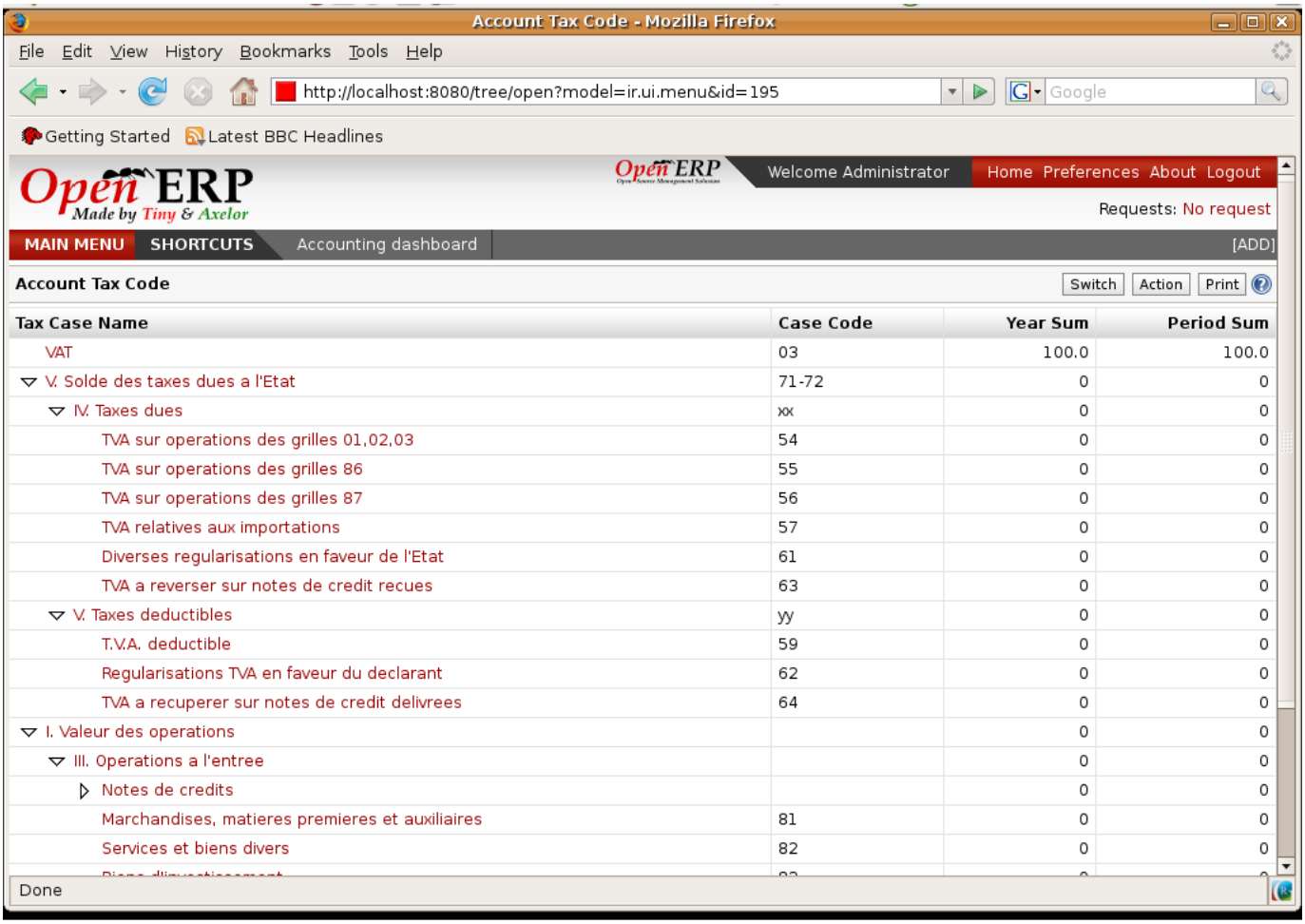
Printing a journal

Tax declaration

Information required for a tax declaration is automatically generated by Open ERP from invoices. In the section on invoicing you'll have seen that you can get details of tax information from the area at the bottom left of an invoice.

You can also get the information from the accounting entries in the columns to the right.

Open ERP keeps a tax chart that you can reach from the menu ***Financial Management > Periodical Processing > Taxes***. The structure of the chart is for calculating the tax declaration but also all the other taxes can be calculated (such as the French DEEE).



Tax Case Name	Case Code	Year Sum	Period Sum
VAT	03	100.0	100.0
V. Solde des taxes dues a l'Etat	71-72	0	0
IV. Taxes dues	xx	0	0
TVA sur operations des grilles 01,02,03	54	0	0
TVA sur operations des grilles 86	55	0	0
TVA sur operations des grilles 87	56	0	0
TVA relatives aux importations	57	0	0
Diverses regularisations en faveur de l'Etat	61	0	0
TVA a reverser sur notes de credit recues	63	0	0
V. Taxes deductibles	yy	0	0
T.V.A. deductible	59	0	0
Regularisations TVA en faveur du declarant	62	0	0
TVA a recuperer sur notes de credit delivrees	64	0	0
I. Valeur des operations		0	0
III. Operations a l'entree		0	0
Notes de credits		0	0
Marchandises, matieres premieres et auxiliaires	81	0	0
Services et biens divers	82	0	0

Example of a Belgian TVA (VAT) declaration

The tax chart represents the amount of each area of the tax declaration for your country. It's presented in a hierarchical structure which lets you see the detail only of what interests you and hides the less interesting subtotals. This structure can be altered as you wish to fit your needs.

You can create several tax charts if your company is subject to different types of tax or tax-like accounts, such as:

- authors' rights,
- ecotaxes such as the French DEEE for recycling electrical equipment.

Each accounting entry can then be linked to one of the tax accounts. This association is done automatically by the taxes which had previously been configured in the invoice lines.

ADVANTAGE Tax declaration

Some accounting software manages the tax declaration in a dedicated general account. The declaration is then limited to the balance in the specified period. In Open ERP you can create an independent chart of taxes, which has several advantages:

- it's possible to allocate only a part of the tax transaction
- it's not necessary to manage several different general accounts depending on the type of sale and type of tax
- you can restructure your chart of taxes as you need

At any time you can check your chart of taxes for a given period using the report: ***Financial Management > Reporting > Taxes Report***.

This data is updated in real time. That's very useful because it enables you at any time to preview the tax that you owe at the start and end of the month or quarter.

Furthermore, for your tax declaration you can click on one of the tax accounts to investigate the detailed entries that make up the full amount. This helps you search for errors such as when you've coded an invoice at full tax rate where it should be zero-rated for an inter-community trade or for a charity.

In some countries, tax can be calculated on the basis of payments received rather than invoices sent. In this instance choose ***Base on*** `Payments` instead of ***Base on*** `Invoices` in the ***Select period*** form. Even if you make your declaration on the basis of invoices sent and received it can be interesting to compare the two reports to see the amount of tax that you pay but haven't yet received from your customers.

Company Financial Analysis

You'll see here the analysis tools for your company's financial situation, in particular:

- management indicators,
- budgets,
- the accounting dashboard.

Management Indicators

TERMINOLOGY Financial Indicators

Indicators, sometimes called financial ratios, are tools for analyzing a company's finances. They enable you to compare two accounts or sets of accounts from the balance sheet or the profit and loss account, in the form of a ratio. They also let you measure the financial health of a company and make comparisons from one year to the next or against those of other companies.

To define accounting indicators in Open ERP you should install the module `account_report`. When installing the module the usual financial indicators are registered in Open ERP.

You can consult your indicators, calculated in real time, from the menu ***Financial Management > Reporting > Custom Reports***.

Indicators defined by default in Open ERP are the following:

- ***Indicators of Working Capital***: determines if the company can pay its short term debts in normal conditions. It's calculated from `(Stocks + Cash + Current Assets) / Current Liabilities`.
- ***Financial Ratios***: enables you to calculate the company's liquidity. It is defined as follows: `( Current Assets – Stocks) / Current Liabilities`.
- ***Fixed Assets***: in a going concern, the value of fixed assets are covered in the first place by owners' capital and in the second place by all of the long term liabilities. Ideally this indicator will be greater than 1.

ADVICE Calculation of indicators

Calculating indicators can take quite a while in Open ERP because you have to analyze the whole company's accounting entries.

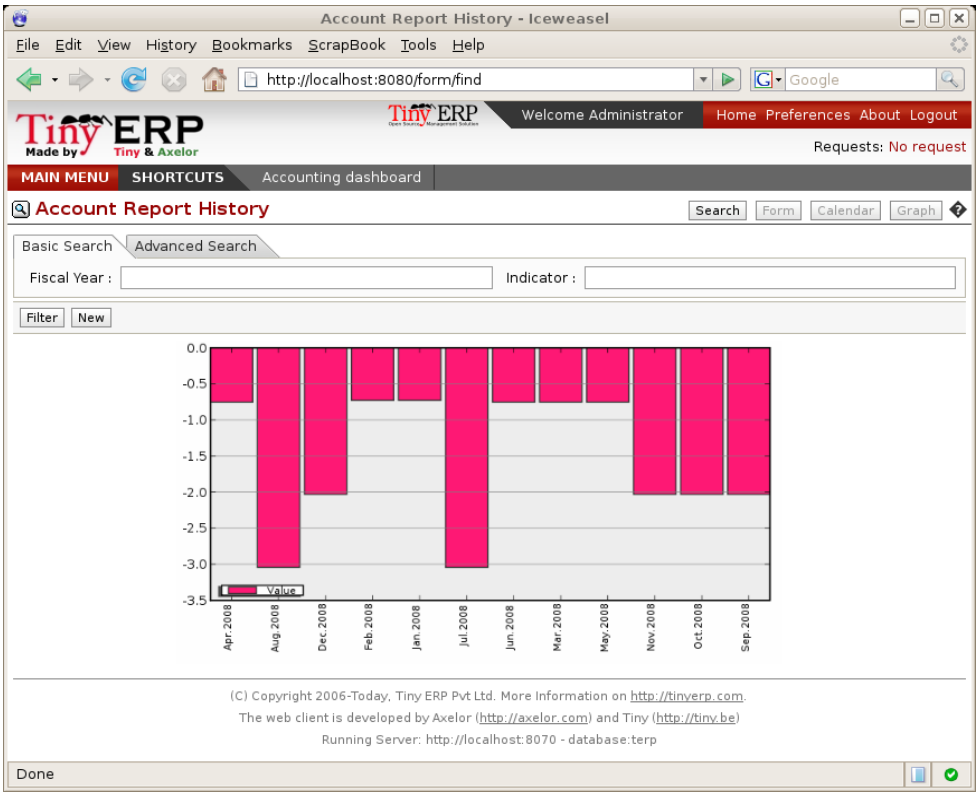
So it's best not to calculate all of the indicators at once, but just a small selection to keep calculation time within limits.

Time analysis of indicators

You can analyze the financial indicators along two axes. You must have a figure calculated at a particular instant of time when you compare accounts, balances and the ratios between them. But you can also calculate a time series to follow the change of a given indicator throughout the life of the company.

To do a temporal analysis of your indicators, you must install the module `account_report_history` from the set of modules in extra_addons.

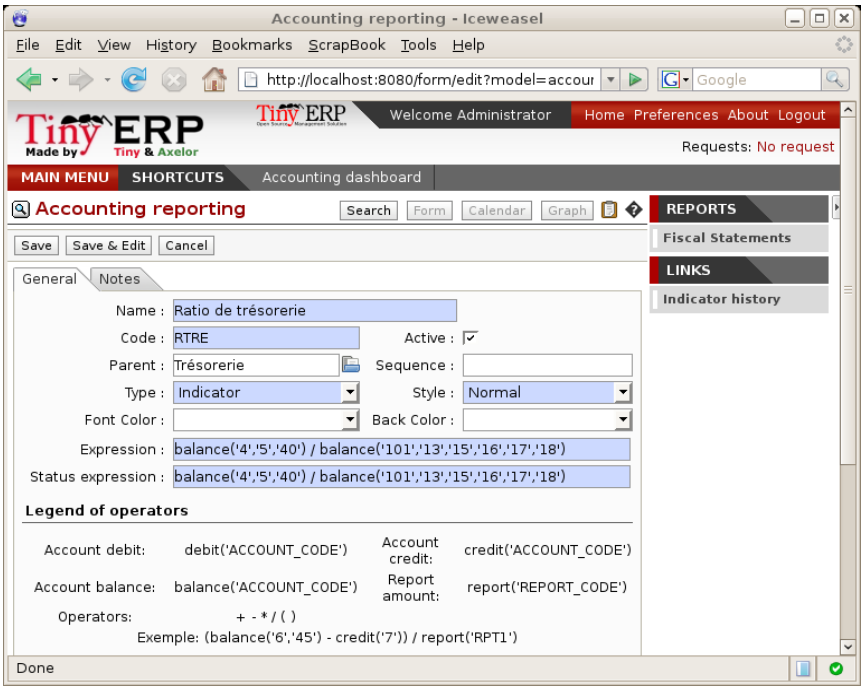
Once this module is installed, you can click on a financial indicator to get a graph of its evolution in time.



History of an accounting indicator

Defining your own indicators

You can define your own indicators in Open ERP using the menu ***Financial Management > Configuration > Custom Reporting > New Reporting Item Formula***.



Defining a new indicator

You should make sure that the accounts that you base indicators on are given unique account codes, because codes are used in the creation of formulae. Create a formula using the syntax indicated in the instructions at the bottom of the form:

- Sum of debits in a general account: `debit('12345')`,
- Sum of credits in a general account: `credit('12345')`,
- Balance of a general account: `balance('12345')`,
- Value of another indicator: `report ('IND')`.

where:

- `12345` represents the code of a general account,
- `IND` represents the code of another indicator.

So, using this notation, the cash ratio is defined by `balance('4', '5') / balance('1')` – that's the balance in accounts 4 and 5 divided by the balance in account 1.

Good management budgeting

Open ERP manages its budgets using both General and Analytic Accounts. You'll see how to do this here for General Accounts and then in Chapter 9 for Analytical Accounts.

Use the menu ***Financial Management > Configuration > Budgets > General Budgets*** to define a new budget.

ADVICE Budget Revisions

Even though you can modify a budget at any time to make a revision of it, it's best if you don't do that.

Rather than edit an existing budget document, make a new version so that you can keep your original estimates safe for comparison. This enables you to analyze your changing perspectives of the company from revision to revision.

Begin data entry by entering a ***Code*** and a ***Name*** in the first tab of your new budget. The budget ***Direction*** can be for `Products` or `Charges` – choose one. Then, in the second tab, ***Dotations/Expenses***, you can define the charges per period. For each period you can define a quantity and/or an amount spent in the default currency of the chart of accounts.

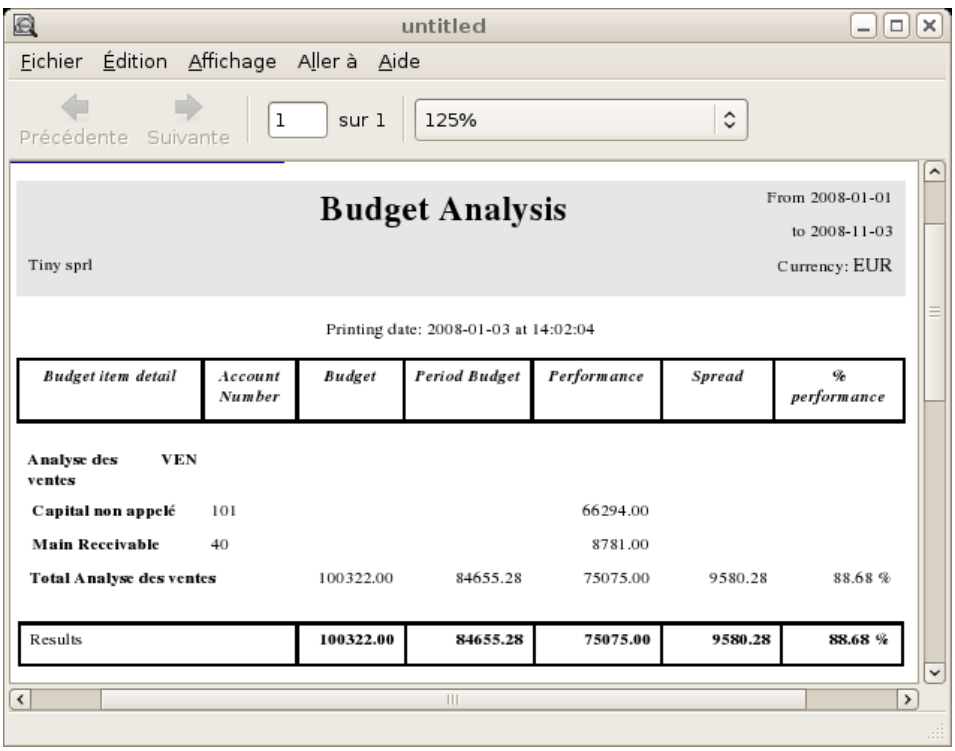
It's also possible to automatically create the different income and expenses over the periods of a single fiscal year. To do that, click ***Spread*** on the second tab. A window then opens requesting the fiscal year over which you want to budget, and the total quantities and amounts for that year. If you want your budget to cover several years, repeat this operation several times.

Once the charges have been generated you can modify them manually to revise the charges period by period. Once the amounts have been assigned over the period, you must specify the accounts for creating this budget on the third tab, ***Accounts***.

To do this, click ***Add*** and make multiple selections for the different accounts to be represented in the budget. Once the three tabs are completed you can save your budget.

REMINDER Multiple selection

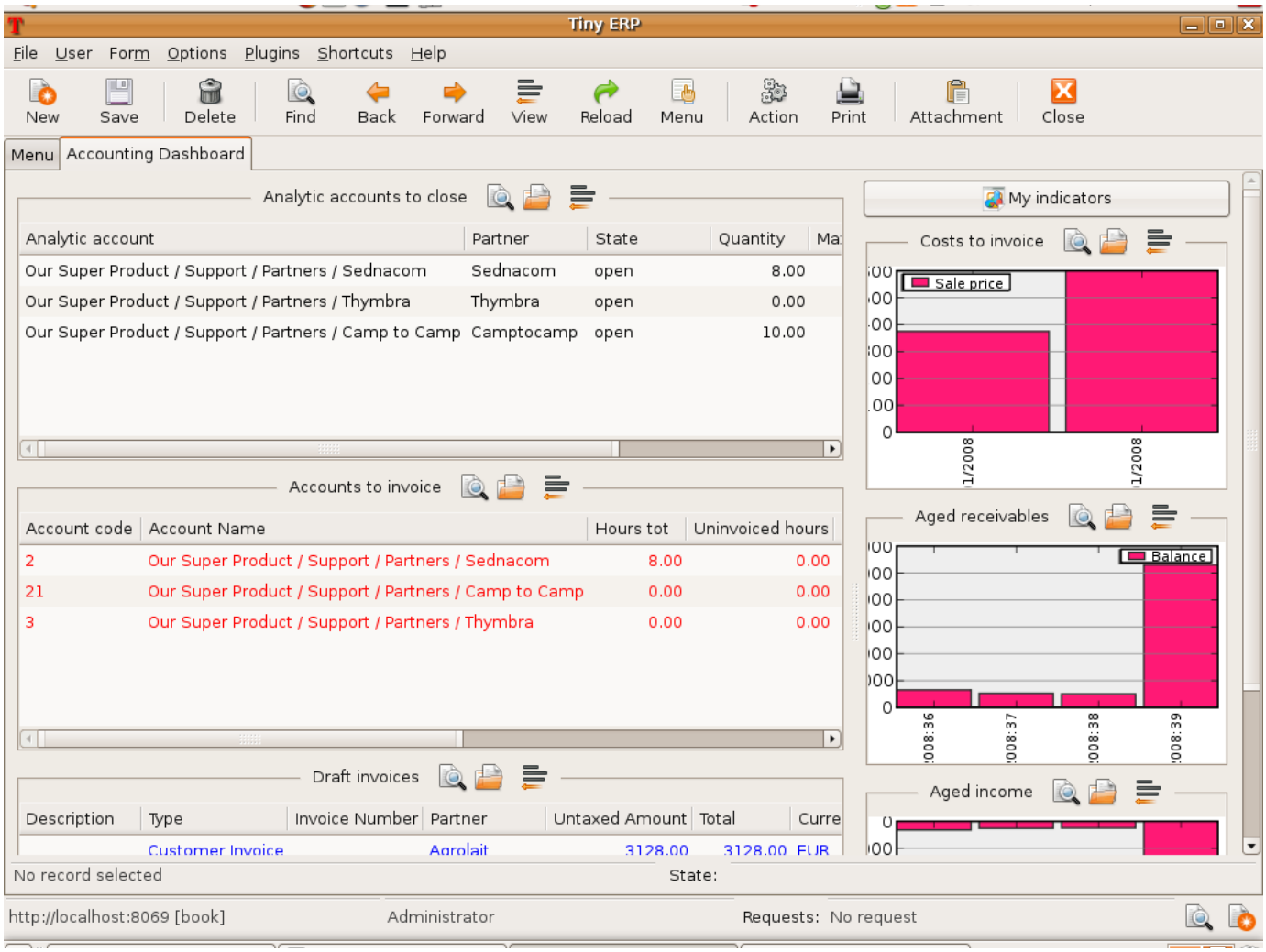
You can select several elements (accounts, partners, etc) at the same time from a list. In the web client, click the checkbox alongside their name in the list view. In the GTK client, click on each element with the mouse, while holding the ***Ctrl*** button down.



Printing a budget

To print a budget and make calculations of expenditure to budget use the menu ***Financial Management > Reporting > Print Budgets***. Open ERP then gives you a list of available budgets. Select one or more budgets and then click ***Print*** to configure the report. The following figure gives an example of a budget produced by Open ERP.

The Accounting Dashboard


Tiny ERP
File User Form Options Plugins Shortcuts Help
New Save Delete Find Back Forward View Reload Menu Action Print Attachment Close
Menu Accounting Dashboard
Analytic accounts to close
Analytic account Partner State Quantity
Our Super Product / Support / Partners / Sednacom Sednacom open 8.00
Our Super Product / Support / Partners / Thymbra Thymbra open 0.00
Our Super Product / Support / Partners / Camp to Camp Camptocamp open 10.00
Accounts to invoice
Account code Account Name Hours tot Uninvoiced hours
2 Our Super Product / Support / Partners / Sednacom 8.00 0.00
21 Our Super Product / Support / Partners / Camp to Camp 0.00 0.00
3 Our Super Product / Support / Partners / Thymbra 0.00 0.00
Draft invoices
Description Type Invoice Number Partner Untaxed Amount Total Curre
Customer Invoice Agrolait 3128.00 3128.00 EUR
My indicators
Costs to invoice
Sale price
Aged receivables
Balance
Aged income
No record selected
State:
http://localhost:8069 [book]
Administrator
Requests: No request

Accounting Dashboard

If you've installed the module `board_account`, Open ERP gives you an accounting dashboard that can be presented to your accounting staff as they sign into the system (if you have set it as their Home Page). This dashboard provides an analysis of the company's financial health at a glance.

This gives a description of the different parts of the dashboard, from top to bottom then from left to right:

- ***Analytic accounts to close***: when you're managing cases each analytical account is a project or a contract. This area gives the accounts that must be closed (for example, contracts expired, support hours exceeded).
- ***Accounts to invoice***: shows analytical accounts where there are charges to be invoiced.
- ***Draft invoices***: gives the list of invoices waiting to be approved by an accountant.
- ***Costs to invoice***: gives the weekly change which can be, but haven't yet been, invoiced.
- ***Aged receivables***: gives a weekly graph of the receivables that haven't yet been reconciled.
- ***Aged revenues***: gives a weekly graph of the company's turnover.

In each panel of the accountants' dashboard you can click the ***Zoom*** button at the top right to investigate the detail of your financial indicators

The Accounting dashboard is dynamically integrated, which means that you can navigate easily through the data if you want more detail about certain factors, and edit the entries if necessary.

8

The A to Z of Configuring Accounts

8

The A to Z of Configuring Accounts

Summary

- Charts of Accounts
- Journals
- Accounting Periods and Fiscal Years
- Payment Terms

Keywords

- chart of accounts
- journal
- accounting year
- fiscal year
- fiscal period
- payment terms
- control

Accounts must be configured to meet your company's needs. This chapter explains how to modify your chart of accounts, journals, access rights, initial account balances, and default values for the initial configuration of your Open ERP accounts.

Assuming, always, that it calculates accurately, the best accounting software would be marked out by its usability and simplicity of data entry, and flexibility in configuring its different components. These would let you modify the accounting module easily to meet your own needs so that you can optimize it for the way you want to use it.

Open ERP lets you adapt and reconfigure many functions to ease the task of data entry:

- adding controls for data entry,
- customizing the screens,
- filling fields automatically during data entry with data that's already known to the system.

Chart of Accounts

On installation, the software is given a default chart of accounts that's the same regardless of your country. To install the chart of accounts and tax definitions for your own country install the module `l10n_XX` where XX represents your country code in two letters. For example to get the chart of accounts for France install the module `l10n_fr`.

Some of these pre-built modules are comprehensive and accurate, others have rather more tentative status and are simply indicators of the possibilities. You can modify these, or build your own accounts onto the default chart, or replace it entirely with a custom chart.

You view active charts of accounts using the menu ***Financial Management > Charts > Charts of Accounts***.

ADVANTAGE Hierarchical charts

Most accounting software packages represent their charts of accounts in the form of a list. You can do this in Open ERP as well if you want to, but its tree view offers several advantages:

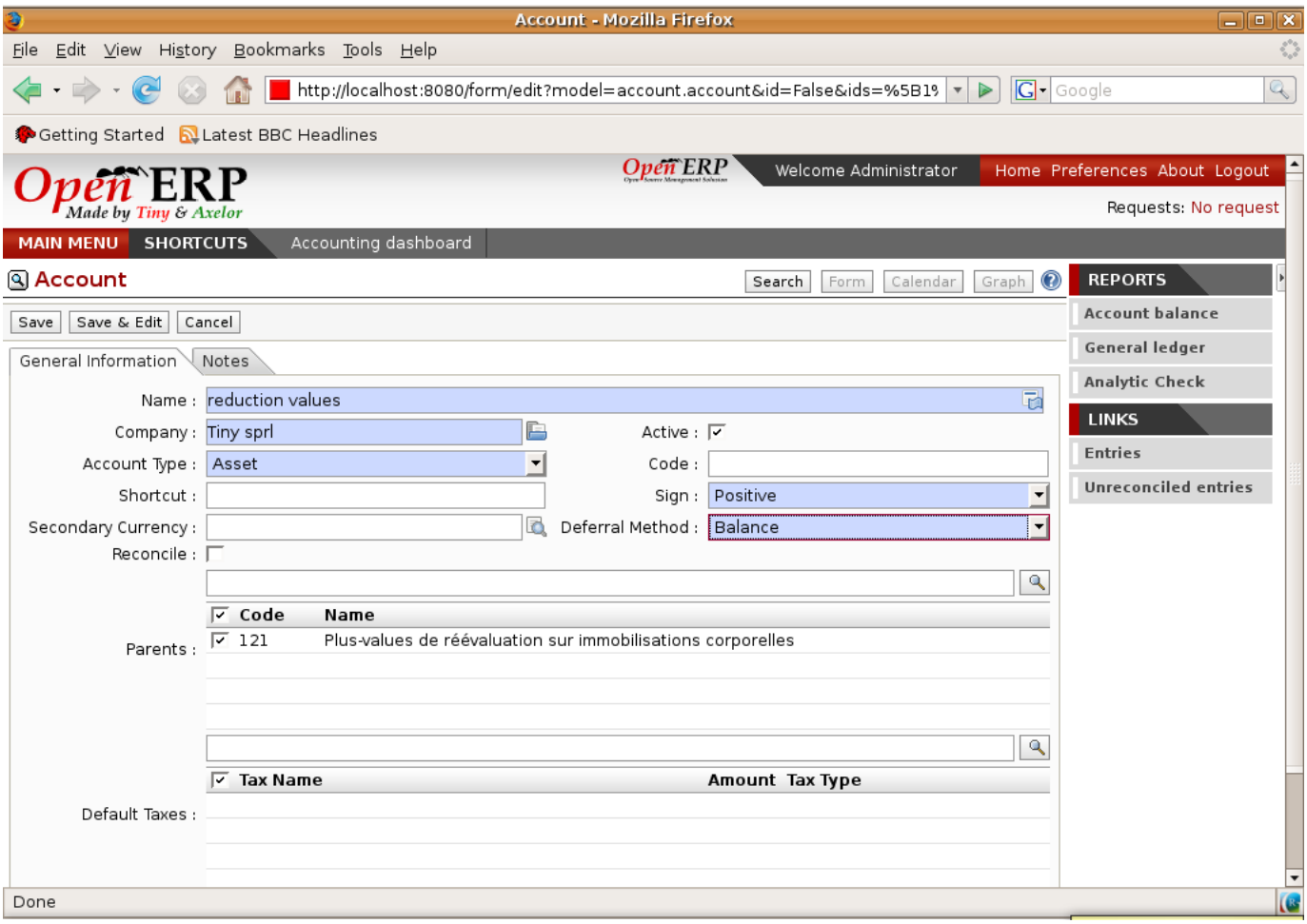
- it lets you show and calculate only the accounts that interest you,
- it enables you to get a global view of accounts (when you show only summary accounts)
- it simplifies searches semantically
- it's more intuitive, because you can search for accounts on the basis of their classification
- it's flexible because you can easily restructure them.

The structure of the chart of accounts is hierarchical, with account subtotals called account views. You can develop a set of account views to contain only those elements that interest you.

To get the detail of the account entries that are important to you, all you need to do is click the account. You can also click the ***Print*** icon after selecting one or several accounts (do a ***Ctrl-click*** on each line you want to select). The software gives you a choice of at least two reports: print the ledger or the balance of the selected accounts.

Displaying the chart of accounts can take several seconds because Open ERP calculates the debits, credits and balance for each account in real time. If you just want to work with a chart of accounts that has structure but shows no totals, use the function ***Financial Management > Charts > Charts of Accounts > Fast Charts of Accounts***.

Creating a chart of accounts



Definition of an account

To add, modify or delete existing accounts, use the menu ***Financial Management > Configuration > General Accounts > Accounts Definitions***.

> **ADVANTAGE Multi-lingual fields**
>
> In Open ERP multi-lingual fields are marked by a small flag to their right. Click on the flag to get a translation of the value of the field in the different installed languages. You can also edit the translation.

> This enables you to efficiently manage other languages as you need them The field's value appears in the language of the logged-in user or, in the case of reports printed for a partner, that of the partner.

The main account fields are:

- ***Name***: the name of the account is a multi-lingual field, which is why there's a little flag to the right. Give the field a name.
- ***Active***: if you deactivate an account (by unchecking the box) it will no longer be visible in the chart of accounts but can be reactivated later. Only accounts which aren't needed for account entries can be deactivated.
- ***Account Type***: account types determine an account's use in each journal. By default the following types are available: `View`, `Receivable`, `Payable`, `Income`, `Expense`, `Tax`, `Cash`, `Asset`, `Equity`. You can add new types through the menu: ***Financial Management > Configuration > Charts of Accounts > Type of Accounts***. Use the `View` type for accounts that make up the structure of the charts and have no account data inputs of their own.

> **Comment Type of account**
>
> The account types are mainly used as an informative title, The only two types that have any particular effect are ***Receivables*** and ***Payables***.
>
> These two types are used by reports on partner credits and debits. They're calculated from the list of unreconciled entries in the accounts of one of these two types.

- ***Account Number***: the code isn't limited in number of digits. Use code 0 for all root accounts.
- ***Currency***: the default currency for that account.
- ***Deferral Method***: determines how to treat the account and its entries at the closing of the books at the end of the year. Four methods are available:
  - `Balance`: an entry is generated for the account balance and carried across to the new year (generally used for bank accounts),
  - `None`: no accounting entries are transferred across to the new financial year (generally for classes 6 and 7),
  - `Detail`: all entries are kept for the new fiscal year,
  - `Unreconciled`: only unreconciled entries are carried over to the new fiscal year (usually used for third-party accounts).
- ***Reconcile***: determines if you can reconcile the entries in this account. Activate this field for partner accounts and for chequing (checking) accounts.
- ***Parents***: determines which account is the parent of this one, to create the tree structure of the chart of accounts.
- ***Default Taxes***: this is the default tax applied to purchases or sales using this account. It enables the system to generate tax entries automatically when entering data in a journal manually.

The tree structure of the accounts can be altered as often and as much as you wish without recalculating any of the individual entries. So you can easily restructure your account during the year to reflect the reality of the company better.

Using virtual charts of accounts

The structure of a chart of accounts is imposed by the legislation in effect in the country of concern. Unfortunately that structure doesn't always correspond to the view that a company's CEO needs.

In Open ERP you can use the concept of virtual charts of accounts to manage several different representations of the same accounts simultaneously. These representations can be shown in real time with no additional data entry.

So your general chart of accounts can be the one imposed by the statutes of your country, and your CEO can then have other virtual charts as necessary, based on the accounts in the general chart. For example the CEO can create a view per department, a cash-flow and liquidity view, or consolidated accounts for different companies.

The most interesting thing about virtual charts of accounts is that they can be used in the same way as the default chart of accounts for the whole organization. For example you can establish budgets from your consolidated accounts or from the accounts from one of your companies.

ADVANTAGE Virtual accounts

Virtual accounts enable you to provide different representations of one or several existing charts of accounts. Creating and restructuring virtual accounts has no impact on the accounting entries. You can then use the virtual charts with no risk of altering the general chart of accounts or future accounting entries.

Because they're used only to get different representation of the same entries they're very useful for:

- consolidating several companies in real time,
- depreciation calculations,
- cash-flow views,
- getting more useful views than those imposed by statute,
- presenting summary charts to other users that are appropriate to their general system rights.

So there are good reasons for viewing the execution of financial transactions through virtual charts, such as budgets and financial indicators based on special views of the company.

To create a new chart of accounts you should create a root account using the menu ***Financial Management > Configuration > General Accounts > Accounts Definition***. Your top level account should have ***Code*** `0` and ***Type*** `View`. Then you can choose your structure by creating other accounts of ***Type*** `View` as necessary. Check your virtual structure using the menu ***Financial Management > Charts > Charts of Accounts***.

Finally, when you've got your structure, you must make the general accounts and virtual accounts match. For that search the general accounts and ensure that each non-`View` account there also has a virtual account in the field ***Parents***.

You can then check through your general chart of accounts as well as your virtual charts which give you another representation of the company. All the actions and states in your general account are also available in the virtual accounts.

Finally you can also make virtual charts of accounts from other virtual charts. That can give an additional dimension for financial analysis.

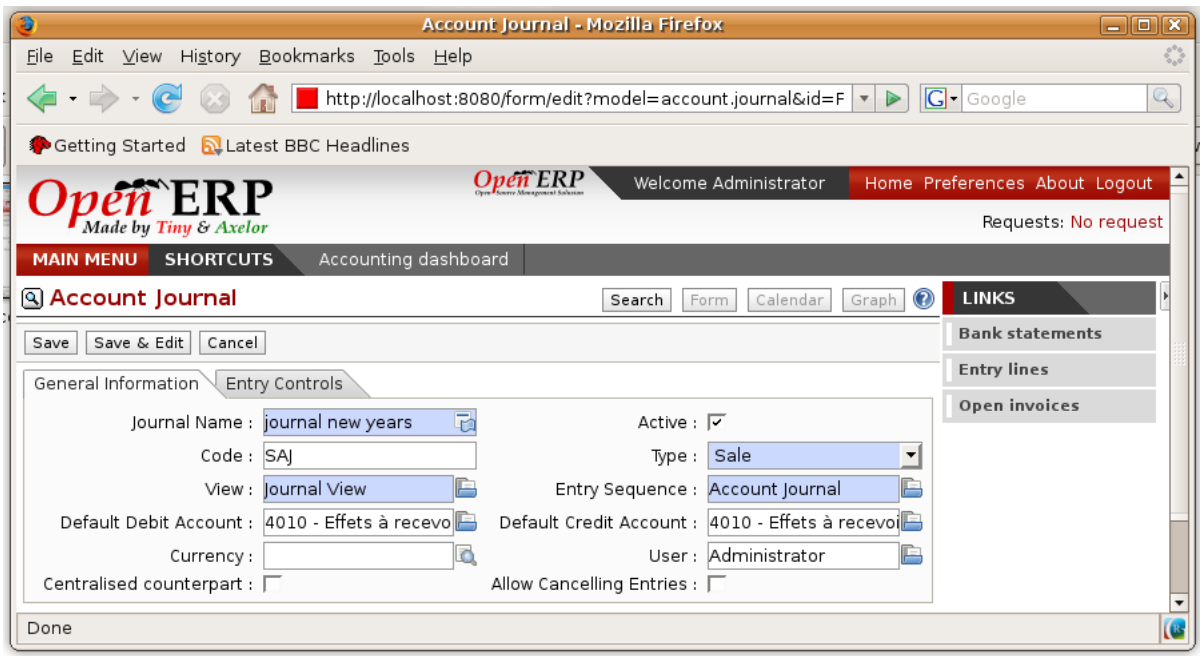
Journals

All your accounting entries must appear in an accounting journal. So you must, at a minimum, create a Sales Journal for customer invoices, a Purchase Journal for supplier invoices and a Cash Journal for cash and bank transactions.

Configuring a Journal

To view, edit or create new journals use the menu ***Financial Management > Configuration > Journals > Definition of Journals***.

Just like General accounts, the journals can be deactivated to make them invisible: uncheck the ***Active*** checkbox for that.



Definition of an accounting journal

You have to associate a view with each journal. The journal view indicates the fields that must be visible and required to enter accounting data in that journal. The view determines both the order of the fields and the properties of each field. For example

the field ***Account Number*** must appear when entering data in the bank journal but not in the other journals.

Before creating a new view for a journal check that there's nothing similar already defined for another journal. You should only create a new view for new types of journal.

> **NOTE Customizing views**
>
> You'll often have to edit a journal view. For example, for a journal in a foreign currency you add a field for the currency and this currency must be in the journal view.
>
> Conversely, to simplify data entry the journal view for the bank is quite different from one of the invoicing journals.

You can also create a sequence for each journal. This sequence gives the automatic numbering for accounting entries. Or several journals can use the same sequence if you want to define one for them all.

The credit and debit account by default permit the automatic generation of counterpart entries when you're entering data in the journal quickly. For example, in a bank journal you should put an associated bank account for default matching credits and debits, so that you don't have to create counterparts for each transaction manually.

A journal can be marked as being centralized. When you do this, the counterpart entries won't be owned by each entry but globally for the given journal and period. You'll then have a credit line and a debit line centralized for each entry in one of these journals, meaning that both credit and debit appear on the same line.

Controls and aids for data entry

You can carry out two types of control on Journals in Open ERP – controls over the financial accounts and access controls for groups of users. In addition to these controls you can also apply all of the rights management detailed in Chapter 13.

To avoid mistakes while entering accounts data, you can place conditions in the general accounts about who can use a given account. To do this, you must list all the accounts or valid account types in the second tab, ***Entry Control***. If you haven't added any accounts there, Open ERP applies no restriction on data entry in the accounts or journals. If you list accounts and the types of account that can be used in a journal, Open ERP prevents you from using any account not in that list. This verification step starts from the moment you save the entry.

This functionality is useful for limiting possible data entry errors. Also, in a bank journal it's possible to restrict the accounts that can be linked to a bank to classes 1 to 5. Using this you'd help prevent the user from making any false entries in the journal.

> **ADVICE Control of data entry**
>
> In accounting it's not a good idea to allow a data entry directly from bank account A to bank account B. If you enter a transaction from bank A to bank B the transaction will be accounted for twice.
>
> To prevent this problem, pass the transaction through intermediate account C. At the time of data entry the system checks the type of

account that's accepted in the bank journal: only accounts that aren't of type `Bank` are accepted.

If your accountant defines this control properly, non-accounting users are prevented from transferring payment from one bank to another, reducing your risks.

Periods and fiscal years

Terminology Periods and fiscal years

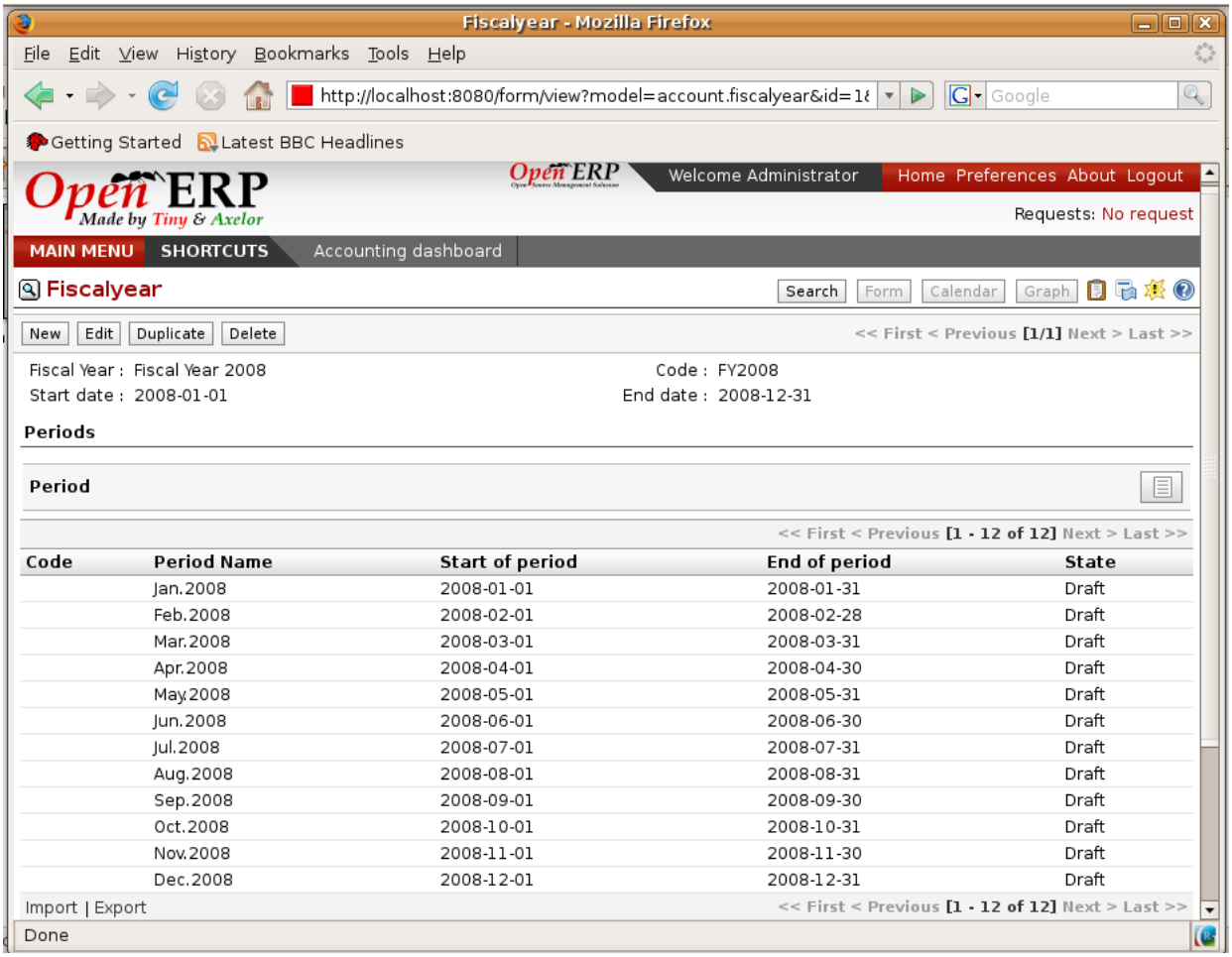
A fiscal year corresponds to twelve months for a company. In many countries, the fiscal year corresponds to a calendar year but that's not the case in others.

The fiscal year is divided into monthly or three-monthly accounting periods.

Open ERP's management of the fiscal year is flexible enough to enable you to work on several years at the same time. This gives you several advantages, such as creating three-year budgets, and states straddling several calendar years.

Defining a period or a fiscal year

To define your fiscal year use the menu ***Financial Management > Configuration > Periods > Fiscal Year***. You can create several years in advance to define long-term budgets.



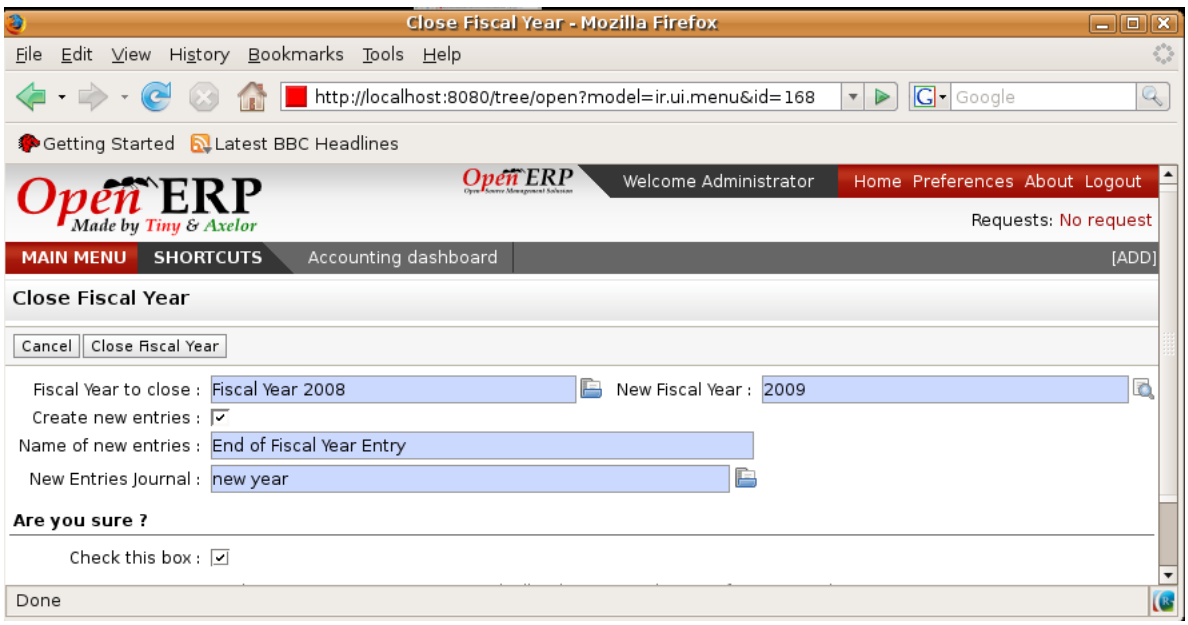
Defining a financial year and periods

First enter the date of the first day of your fiscal year and the last day. Then to create the periods click one of the two buttons at the bottom depending on whether you want to create twelve 1-month or four 3-month periods:

- ***Create monthly periods***,
- ***Create 3-monthly periods***.

Closing the end of the year

To close the end the year, use the following menu: ***Financial Management > End of year processing > Close a Fiscal Year***. A form opens asking you for the essential information it needs to create entries to start the following year.



Closing a financial year

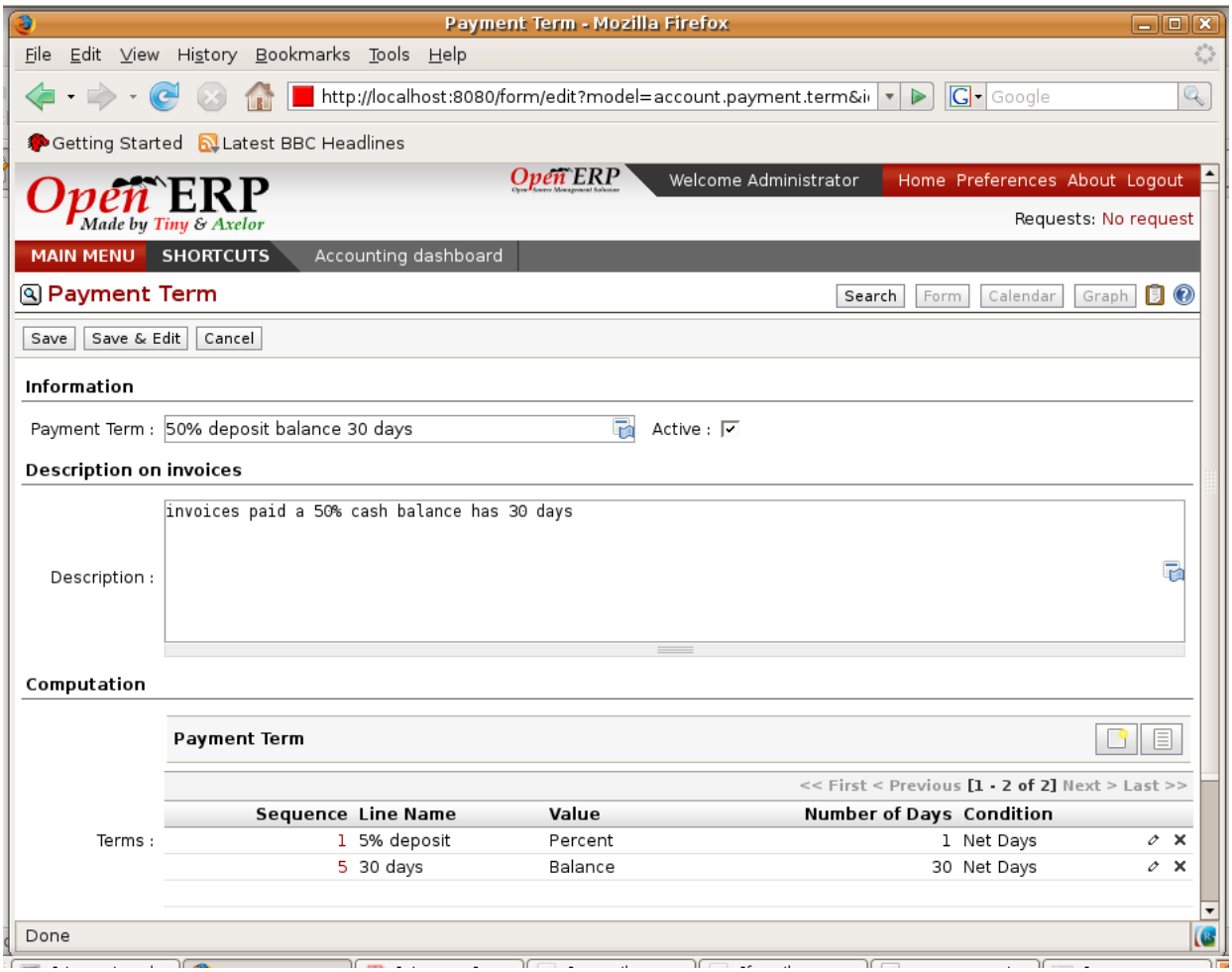
When the year is closed you can no longer create or modify any financial transactions in that year. So you should always make a backup of the database before closing the fiscal year. Closing a year isn't obligatory and you could easily do that sometime in the following year when your accounts are finally sent to the statutory authorities, and no further modifications are permitted.

It's also possible to close an accounting period. You could for example close a monthly period when a tax declaration has been made. When a period is closed you can't modify any of the entries in that period. To close an accounting period use the menu ***Financial Management > End of Year Processing > Close a Period***.

Payment Terms

You can define whatever payment terms you need in Open ERP. Payment terms determine the due dates for paying an invoice.

To define new payment terms, use the menu ***Financial Management > Configuration > Payment Terms > Payment Terms***.



Configuring payment terms

The figure below represents the following payment term: 35% on delivery, the balance 15 days after the end of the month.

To configure new conditions start by giving a name to the ***Payment Term*** field. Text that you put in the field ***Description*** is used on invoices, so enter a clear description of the payment terms there.

Then create individual lines for calculating the terms in the section ***Payment Term***. You must give each line a name (***Line Name***). These give an informative title and don't affect the actual calculation of terms. The ***Sequence*** field lets you define the order in which the rules are evaluated.

The ***Value*** field enables you to calculate the amount to pay for each line:

- `Percent`: the line corresponds to a percentage of the total amount, the factor being given in Amount. The number indicated in the Amount must take a value between 0 and 1.
- `Fixed amount`: this is a fixed value given by the ***Amount*** box.
- `Balance`: indicates the balance remaining after accounting for the other lines.

Think carefully about setting the last line of the calculation to `Balance` to avoid rounding errors. The highest sequence number is evaluated last.

The two last fields, ***Number of Days*** and ***Condition***, enable the calculation of the delay in payment for each line, The delay ***Condition*** can be set to `Net Days` or `End of Month`. For example if you set it to 15 days from the end of the month Open ERP adds 15 days to today's date and then sets the payment date to be the end of the month that the new date is in. So the payment date for 15 days from month end will be:

- 31 January if today is 5 January,
- 28 February if today is 20 January.

You can then add payment terms to a Partner through the ***Properties*** on the partner form.

Entries at the start of a year

To upgrade your various accounts, create a Journal of type ***Situation*** in ***Centralized counterpart*** mode to avoid a counterpart on each line.

For each account that needs upgrading, enter account data in the journal. For this operation use the menu ***Financial Management > Entries > Journal Entries***.

You can also use Open ERP's generic import tool if you load the balance of each of your accounts from other accounting software.

Part IV

Managing your company effectively

Part IV

Managing your company effectively

Your company is a closely interlinked medley of people and processes that form the whole system. If you want it to be efficient, and to be able manage it effectively, you have to organize it and make it systematic, and optimize its major operations. Spots of poor management can disturb the whole added value chain.

This part presents an approach to greater efficiency, showing concrete solutions by applying Open ERP to different problems in a services company. For each enterprise function, Open ERP enables you to automate the recurring tasks, systematize complex processes, simplify the transmission of information, and control your whole set of operations.

9

Analytic Accounts

9

Analytic Accounts

Summary

- Introduction
- Configuration
- Accounting Entries
- Financial Analysis

Keywords

- analytic accounts
- task
- project
- profitability
- chart of accounts
- journal
- budget

Sitting at the heart of your company's processes, analytic accounts (or cost accounts) are indispensable tools for managing your operations well. Unlike your financial accounts they're for more than accountants, they're for general managers and project managers too.

You need a common way of referring to each user, service, or document to integrate all your company's processes effectively. Such a common basis is provided by analytic accounts (or management accounts, or cost accounts, as they're also called) in Open ERP.

Analytic accounts are often presented as a foundation for strategic enterprise decisions. But because of all the information they pull together, Open ERP's analytic accounts can be a useful management tool, at the center of most system processes

There are several reasons for this:

- most of the company's operations are automatically reported in the accounts, so they reflect your entire management activity,
- unlike the general accounts, the structure of the analytic accounts isn't regulated by legal obligations, so each company can adapt it to its needs.

ADVANTAGE Independence from general accounts

In some software packages, analytic accounts are managed as an extension of general accounts – for example, by using the two last digits of the account code to represent analytic accounts.

In Open ERP, analytic accounts are linked to general accounts but are treated totally independently. So you can enter various different analytic operations that have no counterpart in the general financial accounts.

While the structure of the general chart of accounts is imposed by law, the analytic chart of accounts is built to fit a company's needs closely.

Just as in the general accounts, you'll find accounting entries in the different analytic accounts. Each analytic entry can be linked to a general account, or not, as you wish. Conversely, an entry in a general account can be linked to one, several, or no corresponding analytic accounts.

You'll discover many advantages of this independent representation below. For the more impatient, here are some of those advantages:

- you can manage many different analytic operations,
- you can modify an analytic plan on the fly, during the course of an activity, because of its independence,
- you can avoid an explosion in the number of general accounts,
- even those companies that don't use Open ERP's general accounts can use the analytic accounts for management.

IMPORTANT Who gains from analytic accounts?

Unlike general accounts, analytic accounts in Open ERP aren't about accounting so much as a management tool for everyone in the company. That's why they're also called management accounts.

The main users of analytic accounts are the directors, general managers and project managers.

Analytic accounts make up a powerful tool that can be used in different ways. The trick is to create your own analytic structure for a chart of accounts that closely matches your company's needs.

To each enterprise its own analytic chart

To illustrate analytic accounts clearly, you can follow three use cases, each in one of three different types of company:

1 An industrial manufacturing enterprise.
2 A law firm.
3 An IT services company.

Case 1: an industrial manufacturing enterprise

In industry, you'll often find analytic charts of accounts structured into the departments and products that the company itself is built on.

So the objective is to examine the costs, sales and margins by department and by product. The first level of the structure comprises the different departments and the lower levels represent the product ranges that the company makes and sells.

Example Analytic representation of the chart of accounts for an industrial manufacturing company

1. Marketing Department
2. Commercial Department
3. Administration Department
4. Production
   - Product Range 1
     Sub-groups
   - Product Range 2

In daily use it's useful to mark the analytic account on each purchase invoice. The analytic account is the one to which the costs of that purchase should be allocated. When the invoice is approved it will automatically generate the entries for both the general and the corresponding analytic accounts. So, for each entry on the general accounts there's at least one analytic entry that allocates costs to the department that incurred them.

Here's a possible breakdown of some general accounting entries for the example above, allocated to various analytic accounts:

Breakdown of general and analytic accounting entries (Case 1)

General accounts					Analytic accounts	
Title	**Account**	**Debit**	**Credit**		**Account**	**Value**
Purchase of Raw Material	600	1500			Production / Range 1	1 500

Subcontractors	602	450			Production / Range 2	- 450
Credit Note for defective materials	600		200		Production / Range 1	200
Transport charges	613	450			Production / Range 1	- 450
Staff costs	6201	10000			Marketing	- 2 000
					Commercial	- 3 000
					Administrative	- 1 000
					Production / Range 1	- 2 000
					Production / Range 2	2 000
PR	614	450			Marketing	450

The analytic representation by department enables you to investigate the costs allocated to each department in the company.

So the analytic chart of accounts shows the distribution of the company's costs using the example above:

Analytic chart of accounts (Case 1)

Account	Total
Marketing Department	- 2 450
Commercial Department	- 3 000
Administration Department	- 1 000
Production	- 6 200
Product Range 1	- 3 750
Product Range 2	- 2 450

In this example of a hierarchical structure in Open ERP you can analyze not only the costs of each product range but also the costs of the whole of production. The balance of a summary account (***Production***) is the sum of the balances of the child accounts.

A report that relates both general accounts and analytic accounts enables you to get a breakdown of costs within a given department. An analysis of the Production / Product Range 1 department is shown in this table:

Report merging both general and analytic accounts for a department (Case 1)

Production / Product Range 1	
General Account	**Amount**
600 – Raw Materials	1 300
613 – Transport charges	- 450
6201 – Staff costs	-2 000

Total	**-3 750**

The examples above are based on a breakdown of the costs of the company. Analytic allocations can be just as effective for sales. That gives you the profitability (sales - costs) of different departments.

Alternative Representation by unique product range

This analytic representation by department and by product range is usually used by trading companies and industry.

A variant of this is not to break it down by commercial and marketing departments but to assign each cost to its corresponding product range. This will give you an analysis of the profitability of each product range.

Choosing one over the other depends on how you look at your marketing effort. Is it a global cost allocated in some general way or does each product range have responsibility for its own marketing costs?

Case 2: a law firm

Law firms generally adopt management by case where each case represents a current client file. All of the expenses and products are then attached to a given file.

A principal preoccupation of law firms is the invoicing of hours worked and the profitability by case and by employee.

Mechanisms used for encoding the hours worked will be covered in detail in the following chapter. Like most system processes, hours worked are integrated into the analytic accounting. Every time an employee enters a timesheet for a number of hours, that automatically generates analytic accounts corresponding to the cost of those hours in the case concerned. The hourly charge is a function of the employee's salary.

So a law firm will opt for an analytic representation which reflects the management of the time that employees work on the different client cases.

Example Representation of an analytic chart of accounts for a law firm

1. Absences
   - Paid Absences
   - Unpaid Absences
2. Internal Projects
   - Administrative
   - Others
3. Client cases
   - Client 1

   Case 1.1

Case 1.2
- Client 2

Case 2.1

All expenses and sales are then attached to a case. This gives the profitability of each case and, at a consolidated level, of each client.

Billing for the different cases is a bit unusual. The cases don't match any entry on the general account and nor do they come from purchase or sale invoices. They're represented by the various analytic operations and don't have exact counterparts in the general accounts. They're calculated on the basis of the hourly cost per employee. These entries are automatically created on billing worksheets.

At the end of the month when you pay salaries and benefits, you integrate them into the general accounts but not in the analytic accounts, because they've already been accounted for in billing each account. A report that relates data from the analytic and general accounts then lets you compare the totals, so you can readjust your estimates of hourly cost per employee depending on the time actually worked.

The following table gives an example of different analytic entries that you can find for your analytic account:

Analytic entries for the account chart (Case 2)

Title	Account	Amount		General Account	Debit	Credit
Study the file (1 h)	Case 1.1	-15				
Search for information (3 h)	Case 1.1	-45				
Consultation (4 h)	Case 2.1	-60				
Service charges	Case 1.1	280		705 – Billing services		280
Stationery purchase	Administrative	-42		601 – Furniture purchase	42	
Fuel Cost - Client trip	Case 1.1	-35		613 – Transports	35	
Staff salaries				6201 – Salaries		3 000

You'll instantly see that it allows you to make a detailed study of the profitability of different transactions. In this example the cost of Case 1.1 is 95.00 (the sum of the analytic costs of studying the files, searching for information and service charges), but has been invoiced for 280.00, which gives you a gross profit of 185.00.

But an interest in analytical accounts isn't limited to a simple analysis of the profitability of different cases.

This same data can be used for automatic recharging of the services to the client at the end of the month. To invoice clients just take the analytic costs in that month and apply a selling price factor to generate the invoice. Invoicing mechanisms for this are explained in greater detail in chapter 11. If the client requires details of the services used on the case, you can then print the service entries in the analytic account for this case.

ADVANTAGE Invoicing analytic costs

Most software that manages billing enables you to recharge for hours worked. In Open ERP these services are automatically represented by analytic costs. But many other Open ERP documents can also generate analytic costs, such as credit notes and purchases of goods.

So when you invoice the client at the end of the month it's possible for you to include all the analytic costs, not just the hours worked. So, for example you can easily recharge the whole cost of your journeys to the client.

Case 3 : An IT Services Company

Most IT services companies face the following problems:

- project planning,
- invoicing, profitability and financial follow-up of projects,
- managing support contracts.

To deal with these problems you'd use an analytic chart of accounts structured by project and by contract. A representation of that is given in the following example.

EXAMPLE Analytic representation of a chart of accounts for an IT Services company

1. Internal Projects
   - Administrative and Commercial
   - Research and Development
2. Client Projects
   - Client 1

   Project 1.1

   Project 1.2
   - Client 2

   Project 2.1

   Project 2.2
3. Support Contracts – 20h
   - Customer X
   - Customer Y

The management of services, expenditures and sales is similar to that presented above for lawyers. Invoicing and the study of profitability are also similar.

But now look at support contracts. These contracts are usually limited to a prepaid number of hours. Each service posted in the analytic accounts shows the remaining available hours of support. For the management of support contracts you'd use the quantities and not the amounts in the analytic entries.

In Open ERP each analytic line lists the number of units sold or used, as well as what you'd usually find there – the amount in currency units (USD or GBP, or whatever other choice you make). So you can sum the quantities sold and used on each analytic account to determine whether any hours of the support contract remain.

To differentiate services from other costs in the analytic account you use the concept of the analytic journal. Analytic entries are then allocated into the different journals:

- service journal,
- expense journal,
- sales journal,
- purchase journal.

So to obtain the detailed breakdown of a support contract you only have to look at the service journal for the analytic account corresponding to the contract in question.

Finally, the analytic account can be used to forecast future needs. For example, monthly planning of staff on different projects can be seen as an analytic budget limited to the service journal. Accounting entries are expressed in quantities (such as number of hours, and numbers of products) and in amounts in units of currency (USD or GBP perhaps).

So you can set up planning on the basis just of quantities. Analyzing the analytic budget enables you to compare the budget (that is, your plan) to the services actually carried out by month end.

ADVICE Cash Budgets

Problems of cash management are amongst the main difficulties encountered by small growing businesses. It's really difficult to predict the amount of cash that will be available when a company is young and rapidly growing.

If the company adopts management by case, then staff planning can be represented on the analytic accounts report, as you have seen.

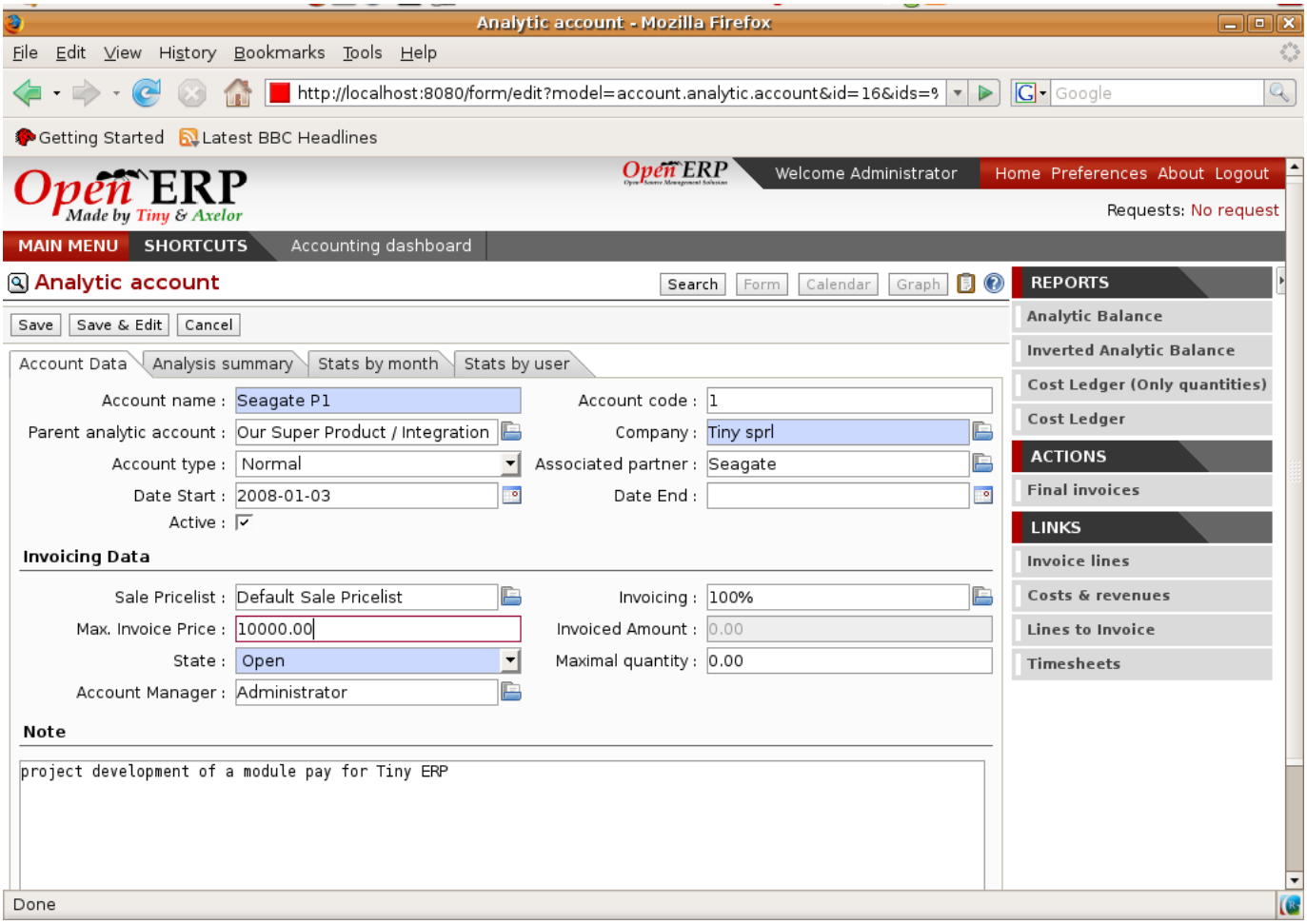
But since you know your selling price for each of the different projects, you can see that it's easy to use the plan in the analytic accounts to precisely anticipate the amounts that you'll invoice in the coming months.

Putting analytic accounts in place

For the initial setup of good analytic accounts you should:

- set up the chart of accounts,
- create the different journals.

Setting up the chart of accounts



Setting up an analytic account

Start by choosing the most suitable analytic representation for your company before entering it into Open ERP. To create the different analytic accounts, use the menu ***Financial Management > Configuration > Analytic Accounts > Analytic Accounts***.

To create an analytic account you have to complete the main fields:

- the ***Account Name***,
- the ***Account Code***, which is used as a shortcut for selecting the account,
- the ***Account type***, just like general accounts the `View` type is used for virtual accounts which are used only to create a hierarchical structure and for subtotals, and not to store accounting entries,
- the ***Parent analytic account***, which defines the hierarchy between the accounts.

If the project is for a limited time you can define a start and end date here. The ***State*** field is used to indicate whether the project is running (`Open`), waiting for information from the client (`Pending`), `Draft` or `Closed`.

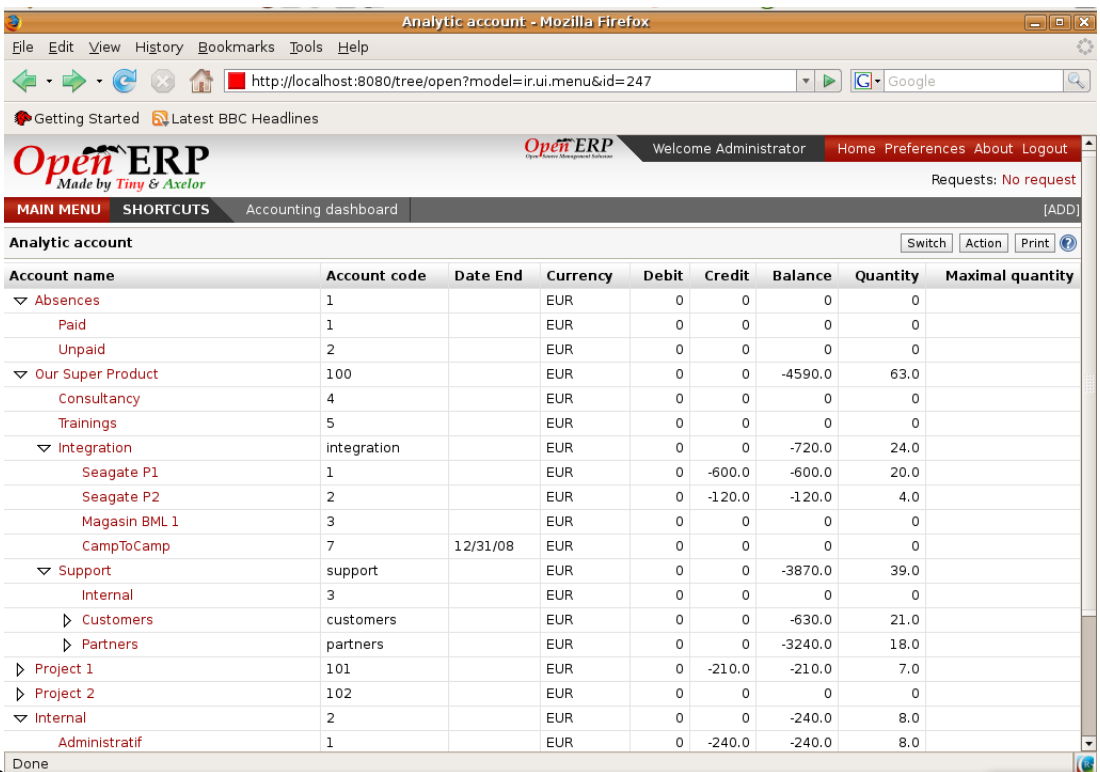
Finally, if the analytic account is a client project you can complete the fields about the partner, which you'd need so that you can invoice the partner:

- the ***Associated partner***,
- a ***Sale Pricelist***, which shows how services linked to the project should be charged,
- a ***Max. Invoice Price***, showing the maximum invoice price regardless of actual overspend,
- a ***Max. Quantity***, for contracts with a fixed limit of hours to use,
- an ***Invoicing*** field, which defines an invoicing rate and whether the project should be invoiced automatically from the services represented by the costs in the analytic account.

METHODS Invoicing

You have several methods available to you in Open ERP for automated invoicing:

- Service companies usually use invoicing from purchase orders, analytic accounts or, more rarely, project management tasks.
- Manufacturing and trading companies more often use invoicing from deliveries or customer purchase orders.


Analytic account - Mozilla Firefox
File Edit View History Bookmarks Tools Help
http://localhost:8080/tree/open?model=ir.ui.menu&id=247
Getting Started Latest BBC Headlines
Open ERP Made by Tiny & Axelor
Welcome Administrator Home Preferences About Logout
Requests: No request
MAIN MENU SHORTCUTS Accounting dashboard [ADD]
Analytic account
Switch Action Print
Account name | Account code | Date End | Currency | Debit | Credit | Balance | Quantity | Maximal quantity
Absences | 1 | | EUR | 0 | 0 | 0 | 0
Paid | 1 | | EUR | 0 | 0 | 0 | 0
Unpaid | 2 | | EUR | 0 | 0 | 0 | 0
Our Super Product | 100 | | EUR | 0 | 0 | -4590.0 | 63.0
Consultancy | 4 | | EUR | 0 | 0 | 0 | 0
Trainings | 5 | | EUR | 0 | 0 | 0 | 0
Integration | integration | | EUR | 0 | 0 | -720.0 | 24.0
Seagate P1 | 1 | | EUR | 0 | -600.0 | -600.0 | 20.0
Seagate P2 | 2 | | EUR | 0 | -120.0 | -120.0 | 4.0
Magasin BML 1 | 3 | | EUR | 0 | 0 | 0 | 0
CampToCamp | 7 | 12/31/08 | EUR | 0 | 0 | 0 | 0
Support | support | | EUR | 0 | 0 | -3870.0 | 39.0
Internal | 3 | | EUR | 0 | 0 | 0 | 0
Customers | customers | | EUR | 0 | 0 | -630.0 | 21.0
Partners | partners | | EUR | 0 | 0 | -3240.0 | 18.0
Project 1 | 101 | | EUR | 0 | -210.0 | -210.0 | 7.0
Project 2 | 102 | | EUR | 0 | 0 | 0 | 0
Internal | 2 | | EUR | 0 | 0 | -240.0 | 8.0
Administratif | 1 | | EUR | 0 | -240.0 | -240.0 | 8.0
Done

Example of an analytic chart for projects

Once you've defined the different analytic accounts you can view your chart through the menu ***Financial Management > Charts > Analytic Charts of Accounts***.

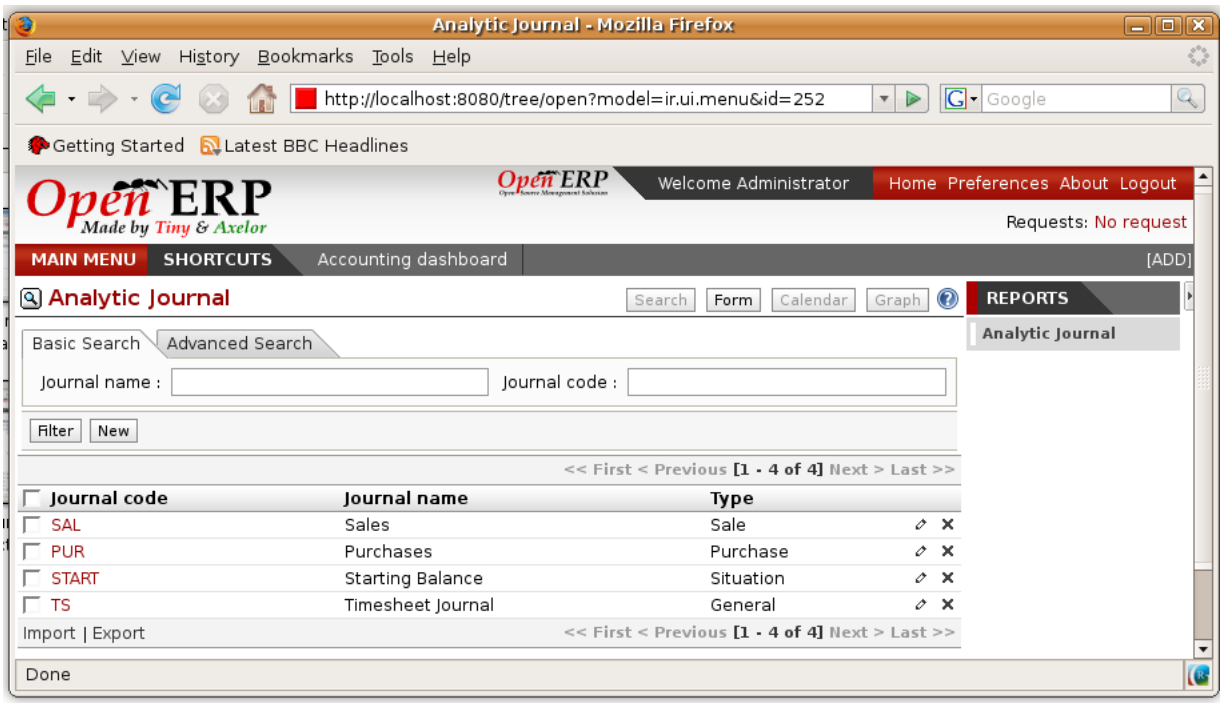
> **TECHNIQUE Setting up an analytic account**
>
> The setup screen for an analytic account can vary greatly depending on the modules installed in your database. For example, you'll only see information about recharging services if you have the module `hr_timesheet_invoice` installed.
>
> Some of these modules add helpful management statistics to the analytic account. The most useful is probably the module `account_analytic_analysis`, which adds such information as indicators about your margins, invoicing amounts, and latest service dates and invoice dates.

Creating Journals

Once the analytic chart has been created for your company you have to create the different journals. These enable you to categorize the different accounting entries by their type:

- services,
- expense reimbursements,
- purchases of materials,
- miscellaneous expenditure,
- sales,
- situation entries (special situations, such as installation of the software).

> **ATTENTION Minimal journals**
>
> At a minimum you have to create one analytic journal for Sales and one for Purchases. If you don't create these two, Open ERP won't validate invoices linked to an analytic account because it wouldn't be able to create an analytic accounting entry automatically.



Creating an analytic journal

To define your analytic journals, use the menu ***Financial Management > Configuration > Journal > Analytic Journal Definition***.

It's easy to create an analytic journal. Just give it a ***Name***, a ***Code*** and a ***Type***. The types available are:

- `Sales`, for sales to customers and for credit notes,
- `Purchases`, for purchases and miscellaneous expenses,
- `Cash`, for financial entries,
- `Situation`, to adjust accounts when starting an activity, or at the end of the financial year,
- `General`, for all other entries.

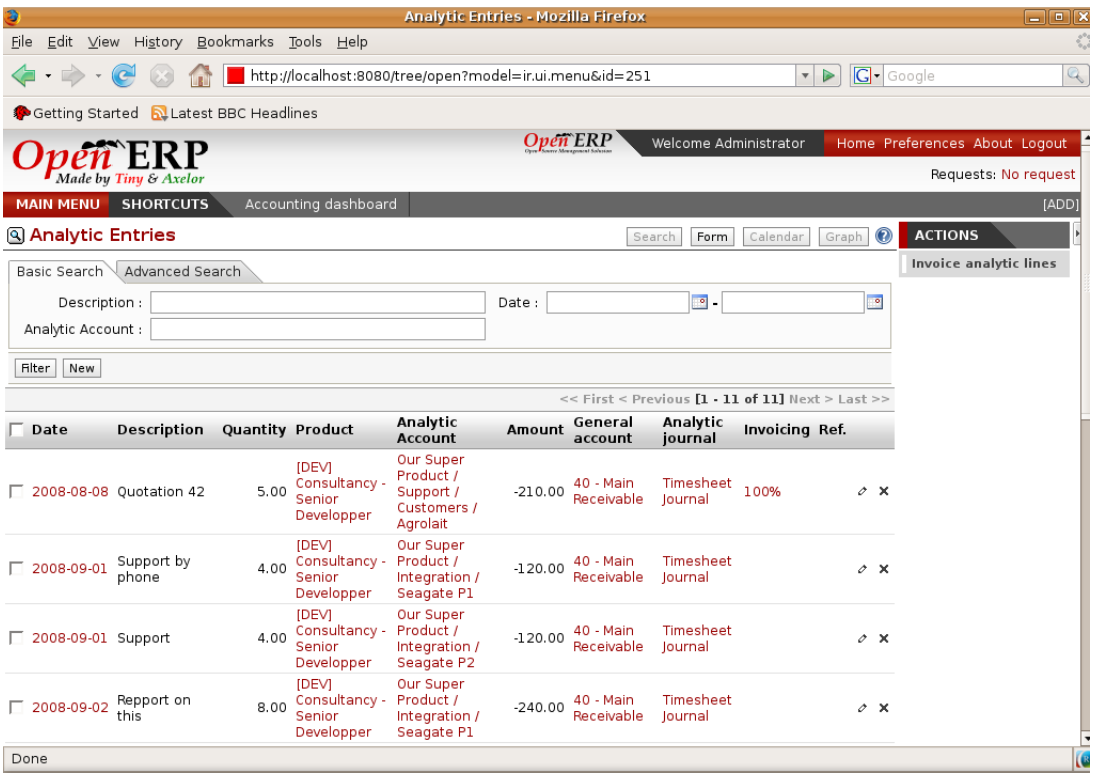
The type of journal enables the software to automatically select the analytic journal based on the nature of the operation. For example if you enter an invoice for a customer, Open ERP will automatically search for an analytic journal of type `Sales`.

Analytic records

Just as in general accounting, analytic entries must belong to an account and an analytic journal.

Analytic records can be distinguished from general records by the following characteristics:

- they're not necessarily legal accounting documents,
- they don't necessarily belong to an existing accounting period,
- they're managed according to their date and not an accounting period,
- they don't generate both a debit and a credit entry, but a positive amount (income) or a negative amount (cost).


Analytic Entries - Mozilla Firefox
File Edit View History Bookmarks Tools Help
http://localhost:8080/tree/open?model=ir.ui.menu&id=251
Getting Started Latest BBC Headlines
Open ERP
Made by Tiny & Axelor
Welcome Administrator Home Preferences About Logout
Requests: No request
MAIN MENU SHORTCUTS Accounting dashboard [ADD]
Analytic Entries
Search Form Calendar Graph
ACTIONS
Invoice analytic lines
Basic Search Advanced Search
Description :
Date :
Analytic Account :
Filter New
<< First < Previous [1 - 11 of 11] Next > Last >>
Date Description Quantity Product Analytic Account Amount General account Analytic journal Invoicing Ref.
2008-08-08 Quotation 42 5.00 [DEV] Consultancy - Senior Developper Our Super Product / Support / Customers / Agrolait -210.00 40 - Main Receivable Timesheet Journal 100%
2008-09-01 Support by phone 4.00 [DEV] Consultancy - Senior Developper Our Super Product / Integration / Seagate P1 -120.00 40 - Main Receivable Timesheet Journal
2008-09-01 Support 4.00 [DEV] Consultancy - Senior Developper Our Super Product / Integration / Seagate P2 -120.00 40 - Main Receivable Timesheet Journal
2008-09-02 Repport on this 8.00 [DEV] Consultancy - Senior Developper Our Super Product / Integration / Seagate P1 -240.00 40 - Main Receivable Timesheet Journal
Done

Analytic account records for a customer project

The figure represents the entries on an analytic account for a customer project.

You can see there:

- the service costs for staff working on the project,
- the costs for reimbursing the expenses of a return journey to the customer,
- purchases of goods that have been delivered to the customer,
- sales for recharging these costs.

Automated entries

Analytic accounting is totally integrated with the other Open ERP modules, so you never have to re-enter the records. They're automatically generated by the following operations:

- confirmation of an invoice generates analytic entries for sales or purchases connected to the account shown in the invoice line,
- the entry of a service generates an analytic entry for the cost of this service to the given project,
- the manufacture of a product generates an entry for the manufacturing cost of each operation in the product range.

Other documents linked to one of these three operations produce analytic records indirectly. For example, when you're entering a customer sales order you can link it to the customer's analytic account. When you're managing by case or project, mark the project with that order. This order will then generate a customer invoice, which will be linked to the analytic account. When the invoice is validated it will automatically create general and analytic accounting records for the corresponding project.

Expense receipts from an employee can be linked to an analytic account for reimbursement. When a receipt is approved by the company, a purchase invoice is created. This invoice represents a debit on the company in favor of the employee. Each line of the purchase invoice is then linked to an analytic account which automatically allocates the costs for that receipt to the corresponding project.

To visualize the general entries following these different actions you can use one of the following menus:

1 To see all of the entries: ***Financial Management > Entries > Analytic Entries > Analytic Entries***.
2 To see the entries per account, click the ***Analytic Account*** field of any of the lines of Analytic Entries to see the details of that entry, then use the analytic ***Account name*** to start a search of all entries with that name (just click the Date hyperlink on a line in the web client, or double-click the line in the GTK client).
3 To see all of the entries by Journal: ***Financial Management > Entries > Analytic Entries > Entries by journal***, and then click on one of the journal names.

> **NOTE Reviewing a hierarchical account**
>
> In the chart of analytic accounts, if you click on an account Open ERP opens a window showing the corresponding analytic entries.
>
> It was intended that if you do that on a `View`-type account Open ERP opens all of the entries belonging to its child accounts. That can be very useful for opening entries belonging to several accounts, such as all project clients. (It didn't do that in version 4.2.2 – later versions may be fixed.)

Manual record entry

Even though most analytic entries are produced automatically by the other Open ERP documents it's sometimes necessary to make manual record entries. It's usually needed for certain analytic operations that have no counterpart in the general accounts.

To make manual record entries, use the menu ***Financial Management > Entries > Analytic Entries > Entries by journal***.

> **Comment Analytic entries**
>
> To make an analytic entry, Open ERP asks you to specify a general account. This is given only for information in the different cross-reports. It won't create any new entries in the general accounts.

Select a journal and complete the different fields. Write an expense as a negative figure and income as a positive figure.

> **Note Entering a date**
>
> To enter a date in the editable list you can use the calendar widget in the web client or, in the GTK client, if you enter just the day of the month Open ERP automatically completes the month and year when you press the tab key (***Tab***).

Example Cost redistribution

For example

One of the uses of manual data entry for analytic operations is reallocation of costs. For example, if a development has been done for a given project but can be used again for another project you can reallocate part of the cost to the other project.

In this case, make a positive entry on the first account and a negative entry for the same amount on the account of the second project.

Financial Analysis

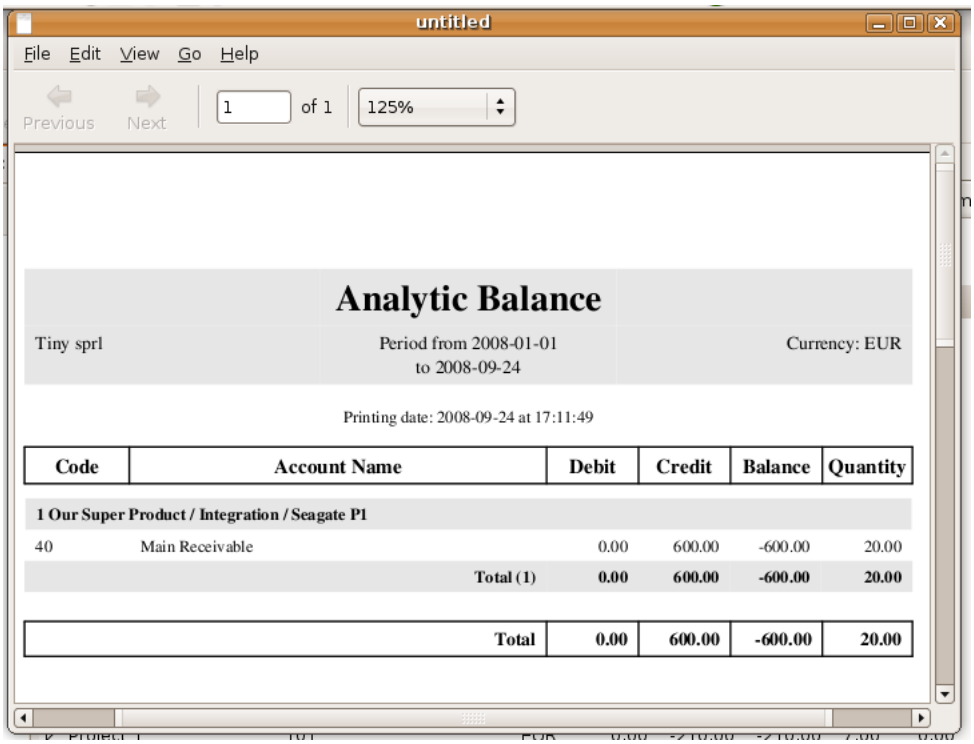
Various reports designed for financial analysis are based on the analytic accounts. Most of those are available directly from the tree of accounts or from the form view of the account.

Analysis per account

From an analytic form, click on the ***Print*** button to select a report. Open ERP proposes the following financial analyses:

- ***Analytic Balance***,
- ***Inverted Analytic Balance***,
- ***Cost Ledger***,
- ***Cost Ledger (quantities only)***.

Analytic Balance

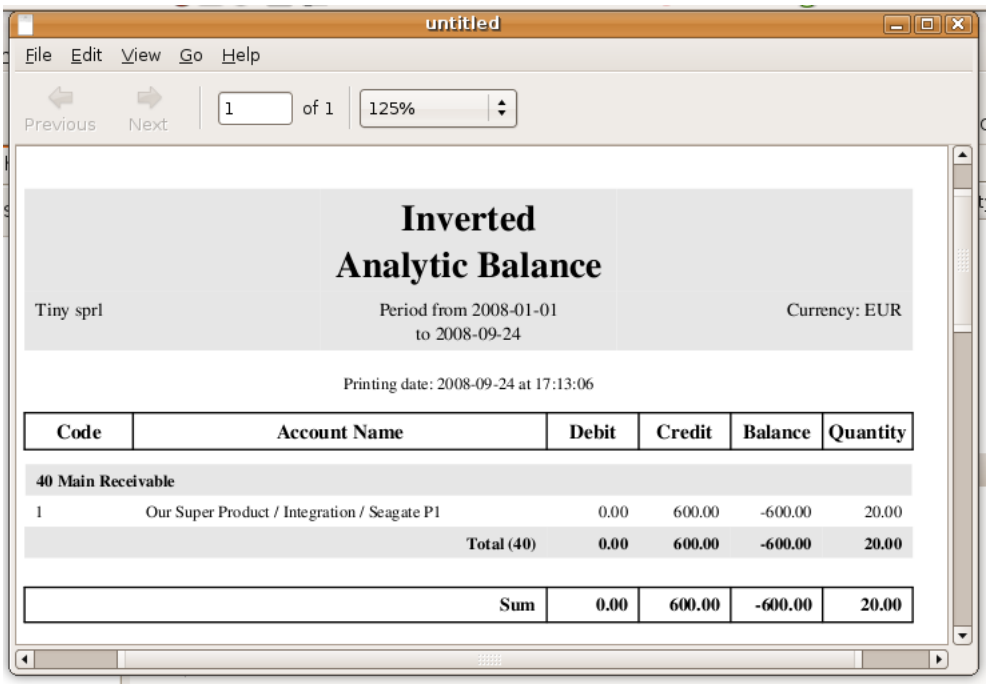


The analytic balance presents the breakdown of each project by the nature of the operations given by the financial accounts

The analytic balance is a report that relates the analytic accounts to the general accounts. It gives, for a given period, the balances of the analytic accounts broken down by general account.

This report is useful for analyzing the profitability of projects. It gives you the profitability of a project for the different operations that you used to carry out the project.

Inverted Analytic Balance

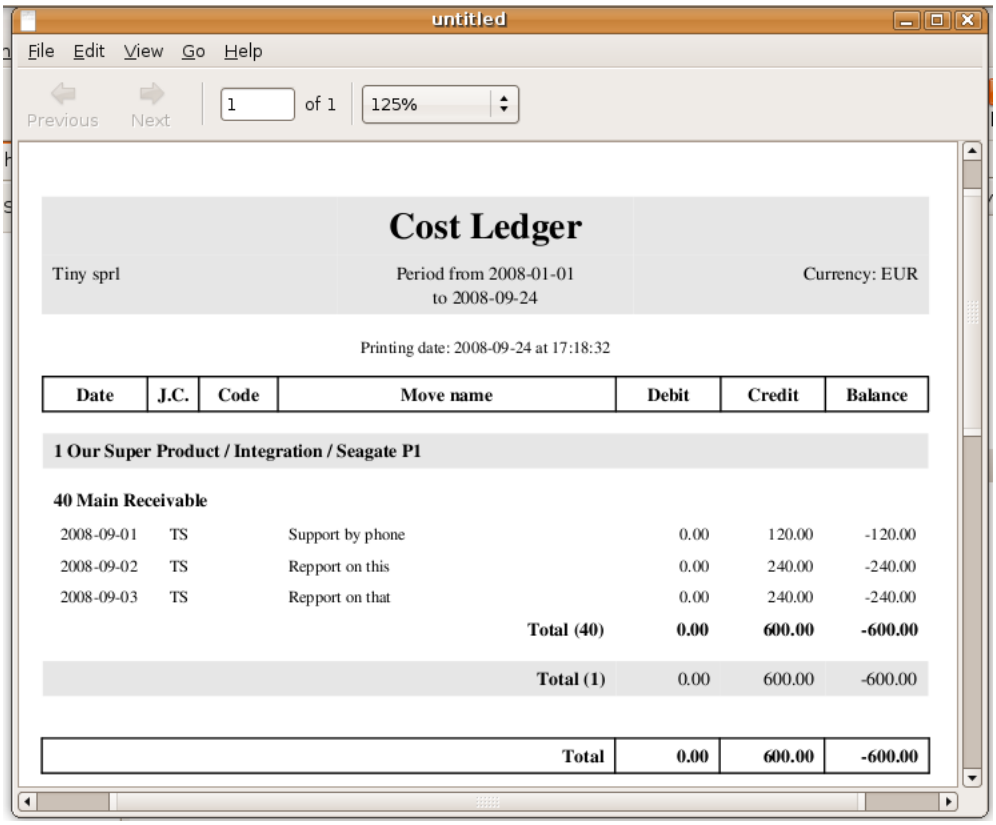


The inverted analytic balance indicates the breakdown of operations by the nature of the different the analytic accounts (projects)

The inverted analytic balance provides a similar report relating the general accounts and the analytic accounts. This report shows, for a given period, the balances of the general accounts broken down by the selected analytic accounts.

This enables you to analyze your costs by general account. For example, if you examine your general account for staff salaries you can obtain all your salary costs broken down by the different analytic (or project) accounts.

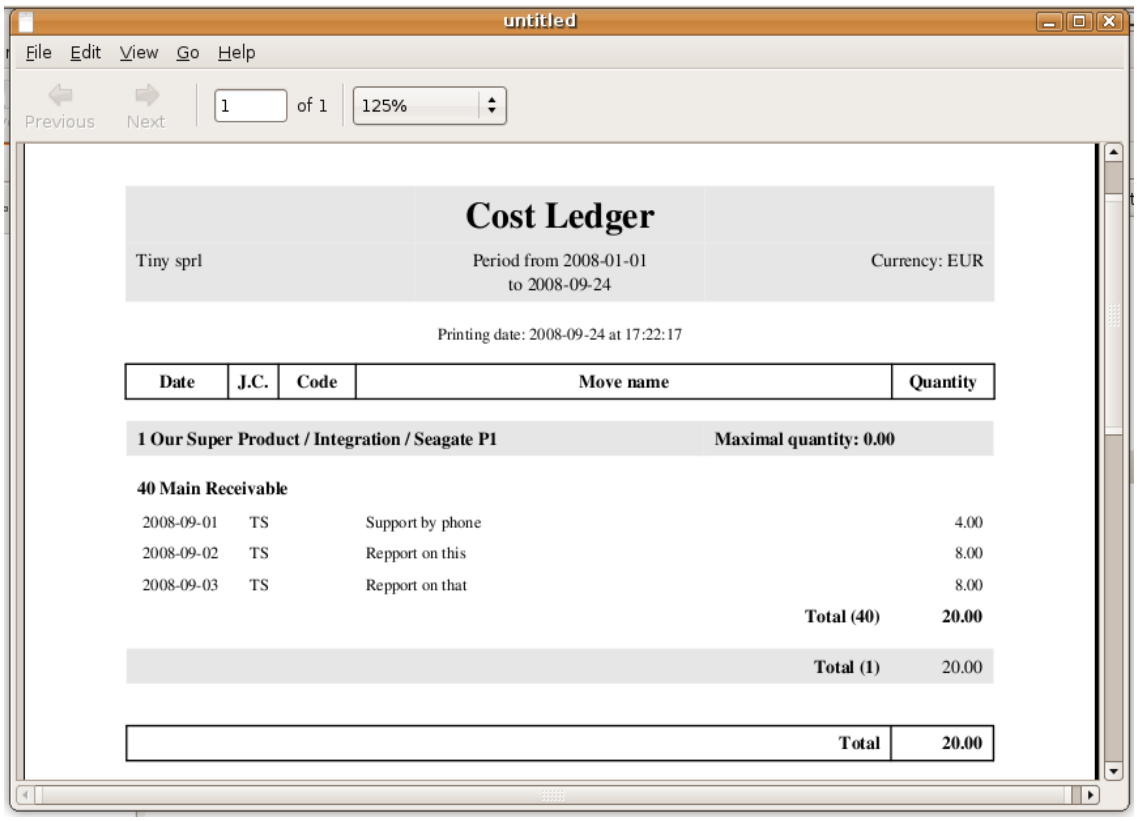
The cost ledger


untitled
File Edit View Go Help
Previous Next
1 of 1
125%
Cost Ledger
Tiny sprl
Period from 2008-01-01 to 2008-09-24
Currency: EUR
Printing date: 2008-09-24 at 17:18:32
Date J.C. Code Move name Debit Credit Balance
1 Our Super Product / Integration / Seagate P1
40 Main Receivable
2008-09-01 TS Support by phone 0.00 120.00 -120.00
2008-09-02 TS Repport on this 0.00 240.00 -240.00
2008-09-03 TS Repport on that 0.00 240.00 -240.00
Total (40) 0.00 600.00 -600.00
Total (1) 0.00 600.00 -600.00
Total 0.00 600.00 -600.00

The analytic cost ledger gives a detailed history of the entries in an analytic account

While the two reports above provide results summed by account, the cost ledger provides all of the detailed entries for the selected accounts. It enables a detailed analysis of each operation carried out on one or several projects.

The cost ledger (quantities only)



The cost ledger (quantities only) gives a history of an analytic account.

The last report gives the detail of entries for an analytic account and a list of selected journals. Only quantities are reported for this analysis, not costs and revenues.

The report is frequently used to print the number of hours worked on a project, without showing the costs and revenues. So you can show it to a client as a record of the hours worked on a particular project.

To restrict the report to hours worked, without including sales and purchases, select only the services journal to print the report.

> **NOTE Multiple printing**
>
> To print several analytic accounts at once you can make a multiple selection on the different account in the tree of accounts. For that select account lines using the ***Ctrl-Click*** keyboard and mouse combination.
>
> Then click on ***Print*** in the tree or list view to export the whole selection into a single PDF document.

NOTE Multi-company

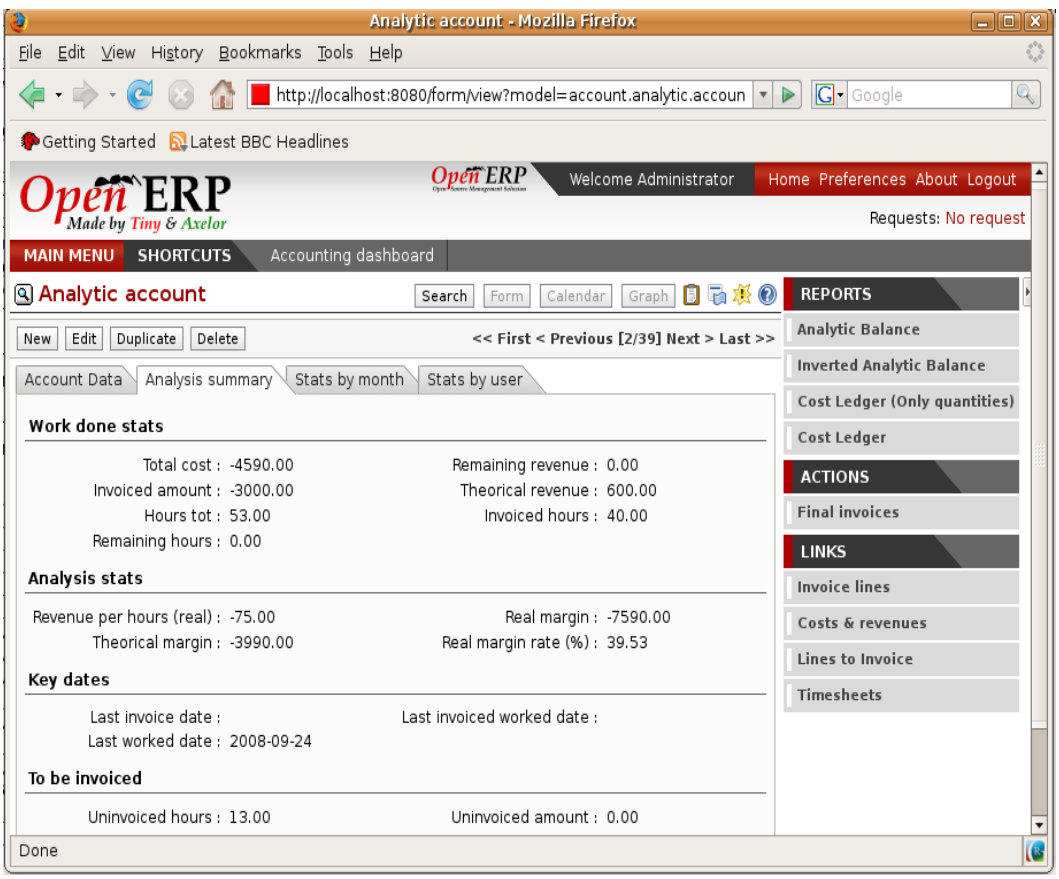
In a multi-company environment each company can have its own general chart of accounts on the same database. The two general charts of accounts are then independent but can be linked in a third chart using a view account to do the consolidation.

If the different companies collaborate on joint projects they may all share the same analytic chart of accounts. In this environment, the cross-related reports like the balance and inverted balance are extremely useful because they enable you to make an analysis per company by linking up to the general accounts.

Key indicators

If you use analytic accounts with a structure of accounts by project client you should install the `account_analytic_analysis` module. This module adds three new tabs to the analytic account form:

- management indicators in the ***Analysis summary*** tab,
- monthly statistics in the ***Stats by month*** tab,
- statistics on each user in the ***Stats by user*** tab.

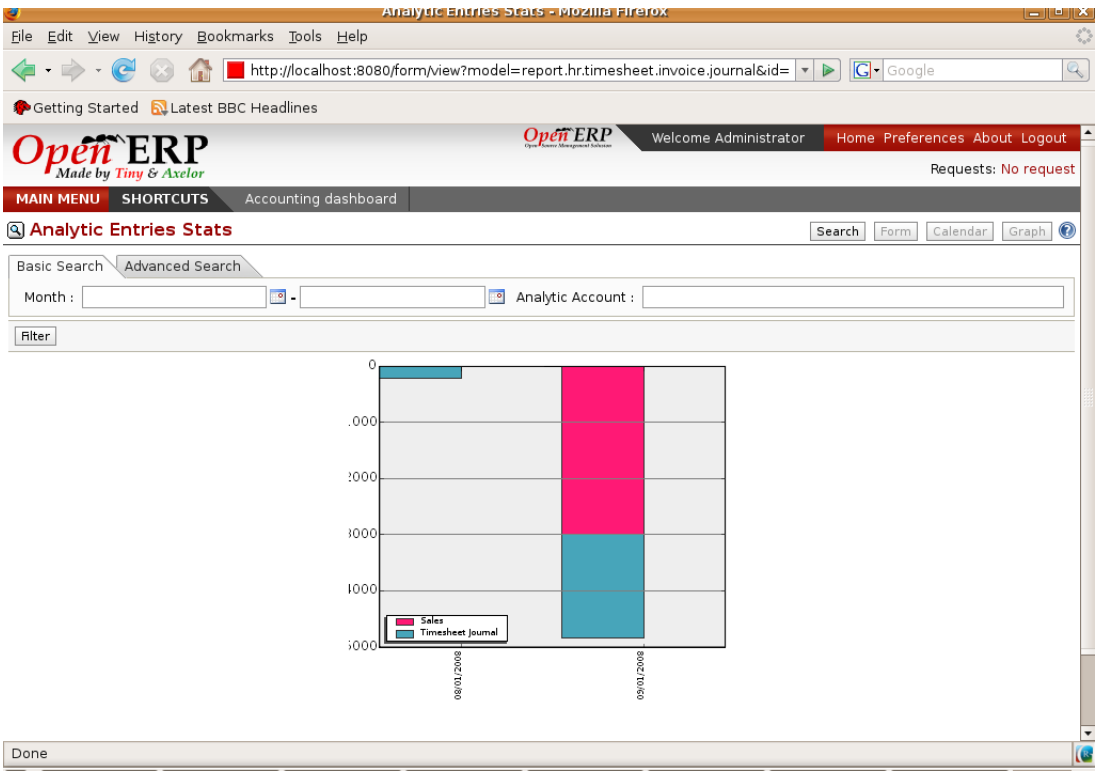


Management indicators for an analytic account

The figure shows all of the management indicators.

These indicators enable you to quickly see the following elements:

- project profitability,
- whether you can still invoice any services to the client, or not,
- the amount of services to invoice,

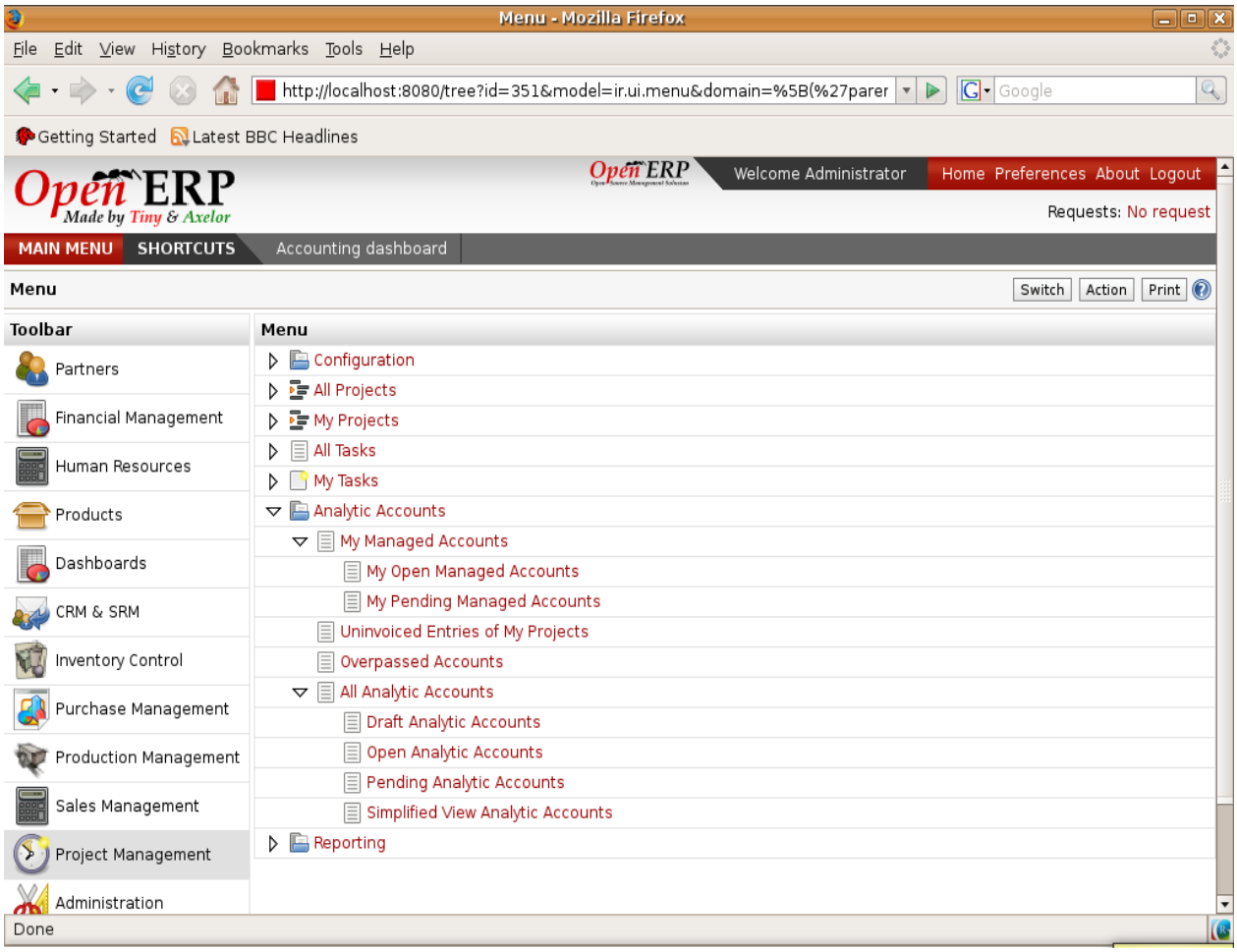


Breakdown of monthly costs for an analytic account

- the different margins.

The real revenue is given by the amount invoiced to the client. The theoretical revenue is given by the sale price of different project costs which could be invoiced to the client. These give different margin figures.

For example, in the case of a fixed price project contract, the real sale price at the end of the project will be equal to the contract negotiated with the client. The theoretical price gives the amount that would have been invoiced if you had charged for all the time worked.



Analytic accounts in Project Management

To give project managers a direct view of their different projects, the `account_analytic_analysis` module creates new menus in the Project management module in ***Project Management > Analytic Accounts***.

These different menus give quick views that are very useful for live projects. For each project you can check if there are uninvoiced services, and see the last invoice date and the last uninvoiced service date, and reports on the amounts received and those planned. Project managers have therefore all the information necessary to manage their project well, shown in a single page.

In the following chapters you'll see how each project manager can use this information to carry out the different operations needed to manage the project, such as automatic invoicing, project planning, keeping customers up to date, and budgeting for resources.

A STEP FURTHER Analytic Budgets

There's been no discussion of analytic budgets in this section because at the time this book was being prepared, the module that handles them was being completely rewritten.

Nevertheless, it's worth trying them because they offer the possibility of::

- forecasting projects in the medium term,
- controlling project costs,
- comparing with the general accounts.

10

Organization of Human Resources

10

Organization of Human Resources

Summary

- Managing Human Resources
- Controlling Services

Keywords

- employee
- contract
- sign-in/sign-out
- timesheet
- services
- attendance

Functions used for directly managing a business. To start, this chapter deals with human resources and employee services. Most of the solutions discussed after this chapter concern management by business or by project: they depend mostly on analytic accounting, and each business or project is represented by an analytic account.

A company is effective only as far as it can rely on its employees' good work. Open ERP's human resource modules enable you to manage important aspects of staff work efficiently, such as their skills, contracts, and working time.

Managing Human Resources

To establish a system that's integrated into a company's management you need to start with an up to date list of collaborators.

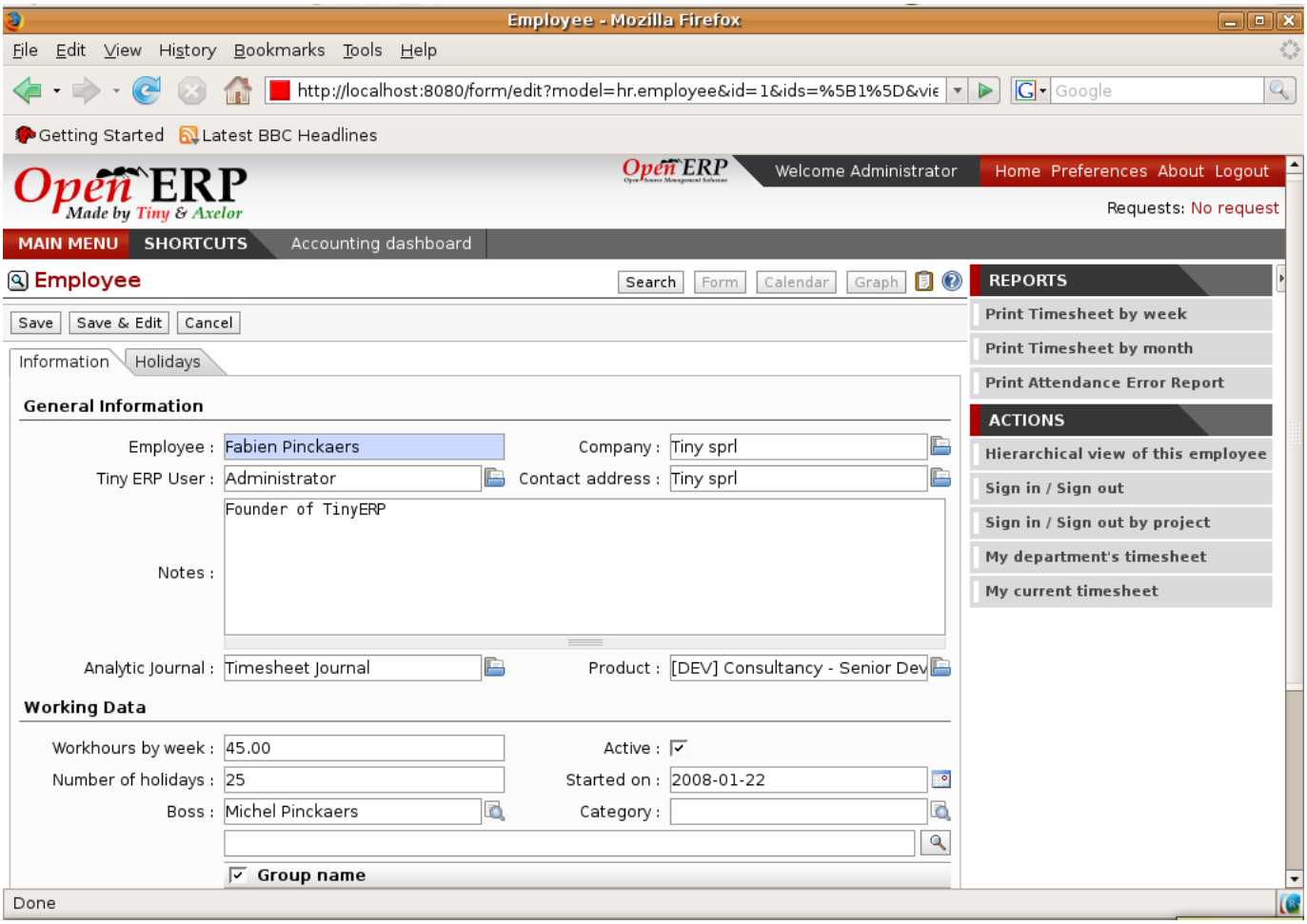
> **DON'T CONFUSE Employee and User**
>
> For Open ERP, “employee” represents all of the physical people who have an work contract with the company. This includes all types of contract: contracts with both fixed and indeterminate time periods, and also independent and freelance service contracts.
>
> A “user” is a physical person who's given access to the company's systems. Most employees are users but some users aren't employees: external partners can have access to parts of the system. You can manage them through the portal modules.

Here are some examples of functions which depend on the list of employees:

- the cost of a service, which depends on the employee's working contract,
- project planning, which depends on the work pattern of the project contributors,
- the client billing rate, which depends on the employee's job function,
- the chain of command, or responsibilities, which is related to the hierarchical structure of the company.

Management of staff

To define a new employee in Open ERP, use the menu ***Human Resources > Employees > New Employee***.



Form describing an employee

Start by entering the employee's ***Name*** and the company that this employee works for (***Company***). You can then create a new user of the Open ERP system which is linked to this employee by filling in the ***Username*** field. Even if the employee isn't a user, it's best if you create a system access for most of your staff just so that you can control their access rights from the outset.

> **ADVICE Making a link between employee and user**
>
> If the employee has a user account on the system you shouldn't forget to link his or her user account to the employee form.
>
> Creating this link enables automatic completion to be done on the Employee field in the relevant forms, such as services and expense records.

Then enter the employee's address. This appears in the partner contact form in Open ERP. Since employees are people that your company has contacts with, it's logical

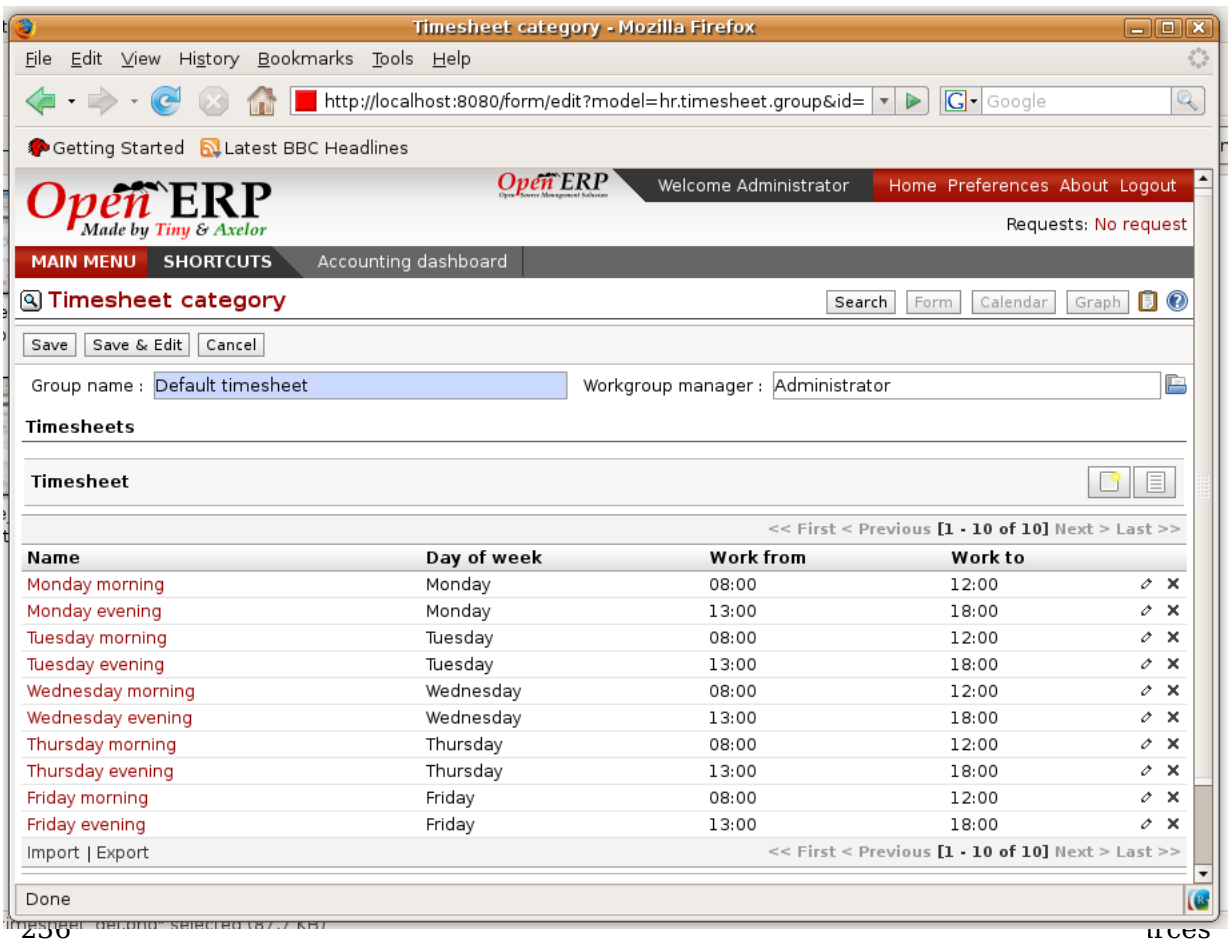
that they have entries just like any other partner in your database. So enter the name of the employee as a new partner Name and the address in the Contact form. Then all of the functions that apply to a partner can also be applied to an employee. This becomes particularly useful because you can track debits and credits in the accounts – so you can track salary payments, for example.

It's then possible to indicate both an analytic journal and a linked product to this employee. If you do it that way, then this information can be used to track services. For now, just complete the form with the following information:

- ***Analytic Journal***: use the journal named Services,
- ***Product***: create a product called Full Time Employee,

Then type in the following information about the employee's working contract:

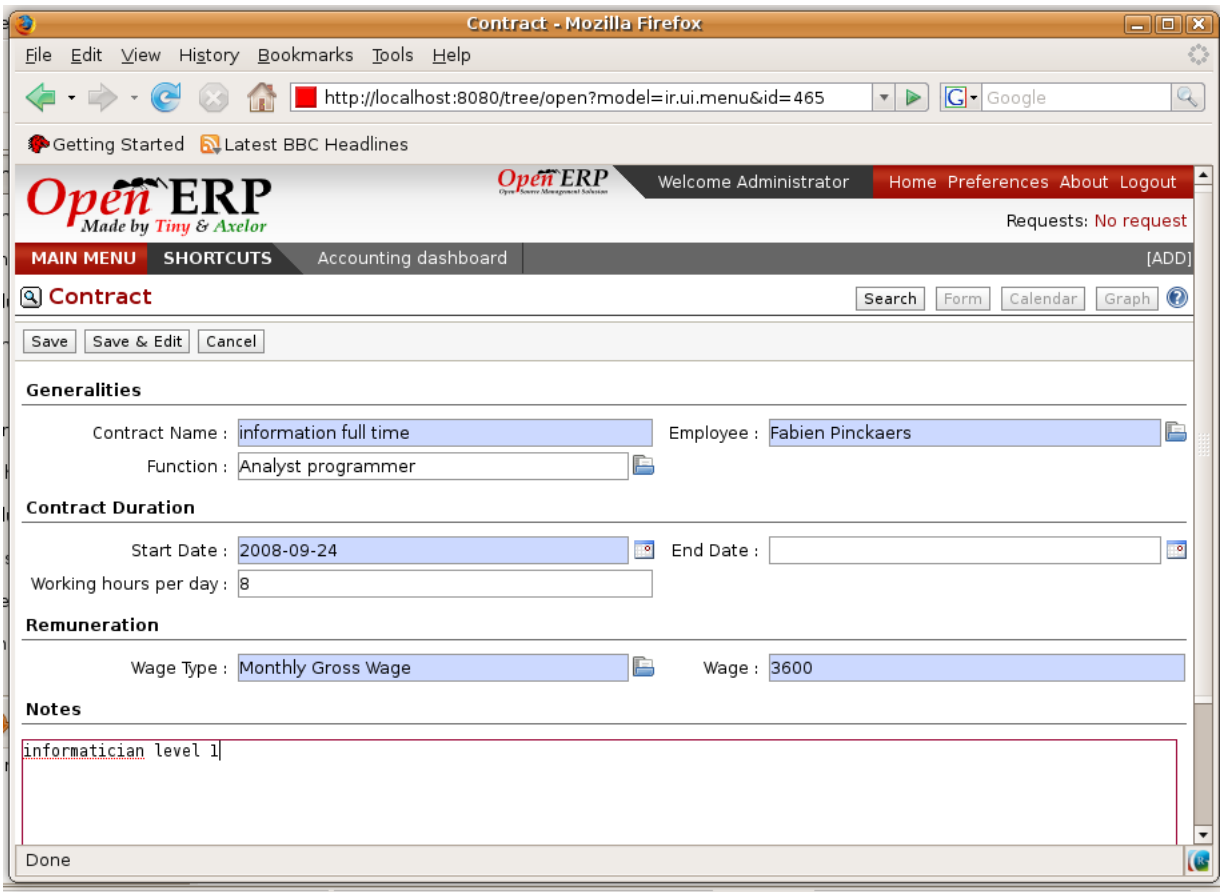
- the number of hours worked per week (Work hours ***per week***),
- the number of holiday days in a year (***Number of holidays***),
- the start date of the contract (***Started on***),
- the name of the employee's immediate manager (***Boss***),
- the position that the employee fills (***Category***),
- the employee's timesheet (using ***Employee's work team***).



Timesheet category for full time 38 hours per week

The different timesheet categories can be defined in the menu ***Human Resources > Configuration > Timesheet Categories***.

Management of employment contracts



Definition of a working contract for a given employee

To manage company employment contracts in Open ERP you should install the module `hr_contract`. You then get a supplementary tab on the employee form, labelled ***Contracts***.

You can enter information about the employment contract for the employee there.

- ***Contract Name***: for example full time, 38h per week,
- Employee ***Function***: for example secretary,
- ***Working hours per day***,
- ***Start Date***,
- ***End Date***, if specified,
- ***Wage*** and the ***Wage Type*** (such as ***Monthly Gross*** or ***Weekly Net***).

Sign in and out

In some companies, staff have to sign in when they arrive at work and sign out again at the end of the day. If each employee has been linked to a system user, then they can sign in on Open ERP by using the menu ***Human Resources > Attendances > Sign in / Out***.

If an employee has forgotten to sign out on leaving, the system proposes that they sign out manually and type in the time that they left when they come in again the next day. The gives you a simple way of managing forgotten sign-outs.

An administrator can then see if an employee is in, looking directly at the form. Look at the list of employees using the menu ***Human Resources > Employees***, and you can see whether they're present or absent.

To get the detail of attendances from an employee's form in Open ERP you can use the three available reports:

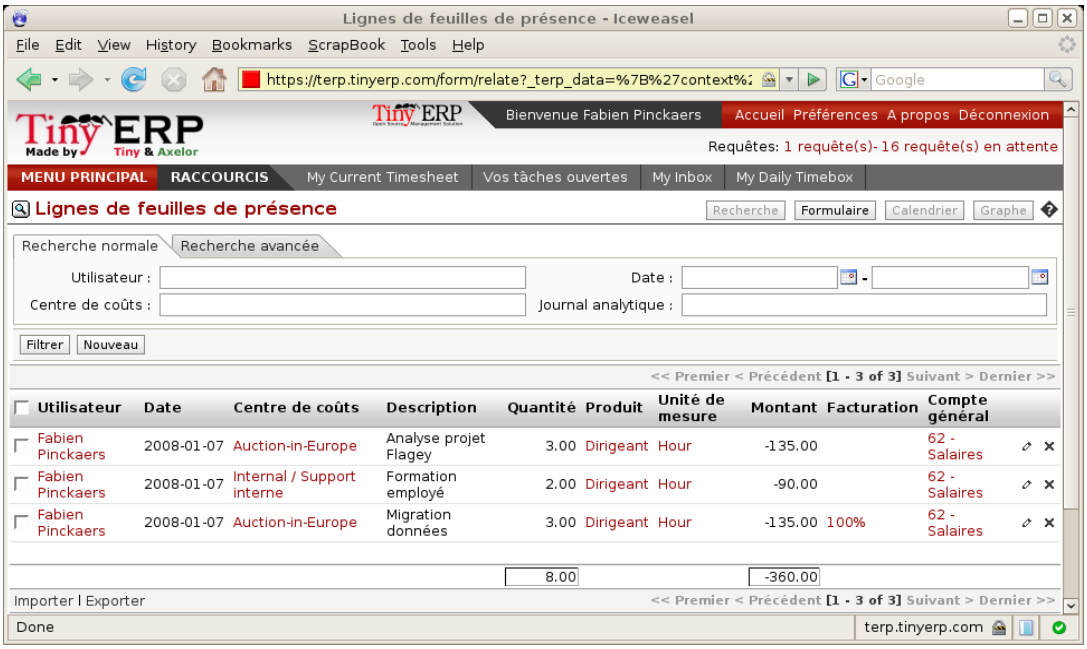
- ***Print Timesheet by week***,
- ***Print Timesheet by month***,
- ***Print Attendance Error Report***.

The last report, about managing changes, can show you whether an employee has entered the time of entry or exit manually. It shows the difference between the expected sign out time and the time entered by the employee at sign out. This enables you to easily discover people who are systematically misrepresenting their attendances.

Timesheets

In most service companies where Open ERP has been integrated, service sheets, or timesheets, have revolutionized management practices. These service sheets are produced by each employee as they work on the different cases or projects that are running. Each of these is represented by an analytic account in the system.

Throughout the day, when employees work on one project or another, they add a line to the timesheets with details of the time used on each project. At the end of the day, each employee must mark all the time worked on client or internal projects to make up the full number of hours worked in the day. If an account isn't in the system then the time is added to the hours that haven't been assigned for the day.



Timesheet for a working day

The figure gives an example of a timesheet for an employee.

> **DON'T CONFUSE Timesheet and Attendance**
>
> The timesheet system isn't intended to be a disguised attendance form. There's no control over the service times and the employee is free to encode 8 or 9 hours or more of services each day if they want.
>
> If you decide to put such a system into place, it's important to clarify this point with your staff. The objective here isn't to control hours, because the employees decide for themselves what they'll be entering – but to track the tasks running and the allocation of costs between them.

Amongst the many uses of such a timesheet system for a company, here are some of the most important:

- enabling tracking of the true costs of a project by accounting for the time used on it,
- tracking the services provided by different employees,
- comparing the hours really used on a project with the initial planning estimates,
- automatically invoicing based on the service hours provided,
- obtaining a list of the service hours for a given client,

- knowing the costs needed to run the company, such as the marketing costs, the training costs for a new employee, and the invoicing rates for a client.

Employee configuration

To be able to use the timesheets at all, you must first define those employees who are system users. The employee definition forms contain the information necessary to use that sheet, such as the job title, and hourly costs.

Two fields will be of particular interest to you for managing timesheets: the ***Analytic Journal*** and the ***Product***.

In the analytic journal will be stored all the analytic entries about the costs of service times. These enable you to isolate the cost of service from other company costs such as the purchase of raw materials, expenses receipts and subcontracting. You can use different journals for each employee to separate costs by department or by function.

The employee is also associated with a product in your database in Open ERP. An employee is linked with a product so they can be 'bought' (subcontracting) or 'invoiced' (project management). You have to create a product for each job type in your company.

The following information is important in the product form:

- ***Name*** of product: such as `Secretary`, `Salesperson`, or `Project Manager`,
- ***Product Type***: always `Service`,
- ***Unit of Measure***: `Hour` or `Day`,
- ***List Price***: price of selling the services of the employee for the position concerned,
- ***Standard Price***: average cost of service expressed in the chosen unit of measure,

> **A STEP FURTHER Price Indexation**
>
> The module `product_index` lets you generate indexes connected to the change of purchase or sale price for individual products.
>
> In human resources, this module can be used to change your prices or costs in step with a national index.

As with Partners, you should create a ***Product Category*** called `Employees` in the product configuration.

In summary, each company employee corresponds, in most cases, to:

- a ***Partner*** form,
- an Employee form,
- a ***System User.***

And each company job position corresponds to a ***Product***.

> **NOTE Hourly cost of an employee**
>
> By default the hourly cost of an employee is given by the standard cost of the product linked to that employee. But if you install the

`hr_contract` module it's possible to manage contracts differently. The hourly cost of the employee is then automatically calculated from their employment contract when they enter their timesheet data.

To do this, the software uses a factor defined in the contract type (for example, the gross monthly salary, calculated per day). Ideally this factor should take into account the salary costs, and the taxes, insurances and other overheads associated with pay.

Entering timesheet data

To be able to use timesheets, you should install the module `hr_timesheet`. Once this module has been installed and the employees configured, the different system users can enter their timesheet data in the menu ***Human Resources > Hours Encoding > For me > My Works of the Day***.

ADVICE Shortcuts

It's a good idea if all employees who use timesheets place this menu in their shortcuts. That's because they'll need to return to them several times each day.

So click ***New*** to get an editable timesheet line and you should enter the fields in this order:

1. The ***User*** is proposed by default, but you can change it if you're encoding the first timesheet for another company employee.
2. The ***Date*** is automatically proposed as today's date, but it's possible to change it if you're encoding the timesheet for a prior day.
3. The ***Analytic Account*** represents the job or the project that you're entering timesheet data for.
4. The ***Quantity*** represents the number of hours or days that you worked.

A free text field is available on each for the ***Description*** of each work item done.

The other fields are automatically completed but can be modified: the ***Product***, the ***Unit of Measure***, the ***Cost*** of the service, and the associated ***General Account***.

The hours are then encoded throughout the day by each employee. It helps to revisit the list at the end of the day to verify that the number of hours of attendance in the company has been properly accounted for. The total entered is shown at the bottom right of the list of service hours.

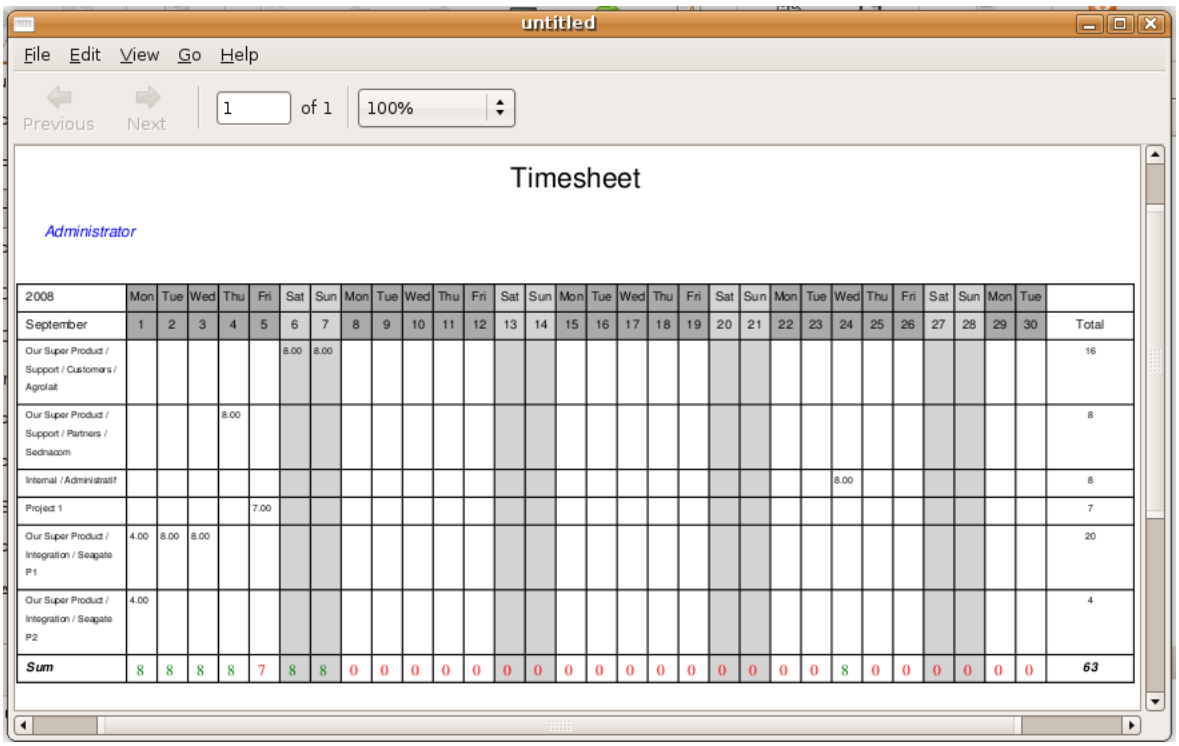
The accuracy of the services entered is crucial for calculating the profitability of the different jobs and the recharging of services. Different reports are therefore available for verifying employees' data entry. Employees can verify their own timesheet using the following reports:

- Printing the timesheets per month, using the menu ***Human Resources > Reporting > Timesheet > Print My Timesheet***.
- Reviewing all service entries using the menu ***Human Resources > Hours Encoding > For Me > All My Work***. You can then use the filters to analyze your services by project, by period or by product.

Technique Cost of services

By default, Open ERP is configured to show the cost of each service when an employee encodes the number of hours per project. You can modify this field by adding the attribute invisible=True in the timesheet view.

The value in this field shows employees the cost of their time used in the company, so masking this field might not always be the best option.



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September	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Total
Our Super Product / Support / Customers / Agrolait						8.00	8.00																								16
Our Super Product / Support / Partners / Sednacom				8.00																											8
Internal / Administratif																								8.00							8
Project 1					7.00																										7
Our Super Product / Integration / Seagate P1	4.00	8.00	8.00																												20
Our Super Product / Integration / Seagate P2	4.00																														4
Sum	8	8	8	8	7	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	**63**

Employee's monthly summary timesheet

Managers can draw on different reports for managing timesheets quite easily. You can print a summary in the form of a table per user and per day in the menu ***Human Resources > Reporting > Timesheet > Print Summary Timesheet***. This helps you spot when an employee has forgotten to encode her timesheet on a certain day.

Many graphs are available through the menus ***Human Resources > Reporting > This Month / All Months***, for example:

- ***Timesheet by User***,
- ***Timesheet by Account***,
- ***Timesheet by Invoice***,

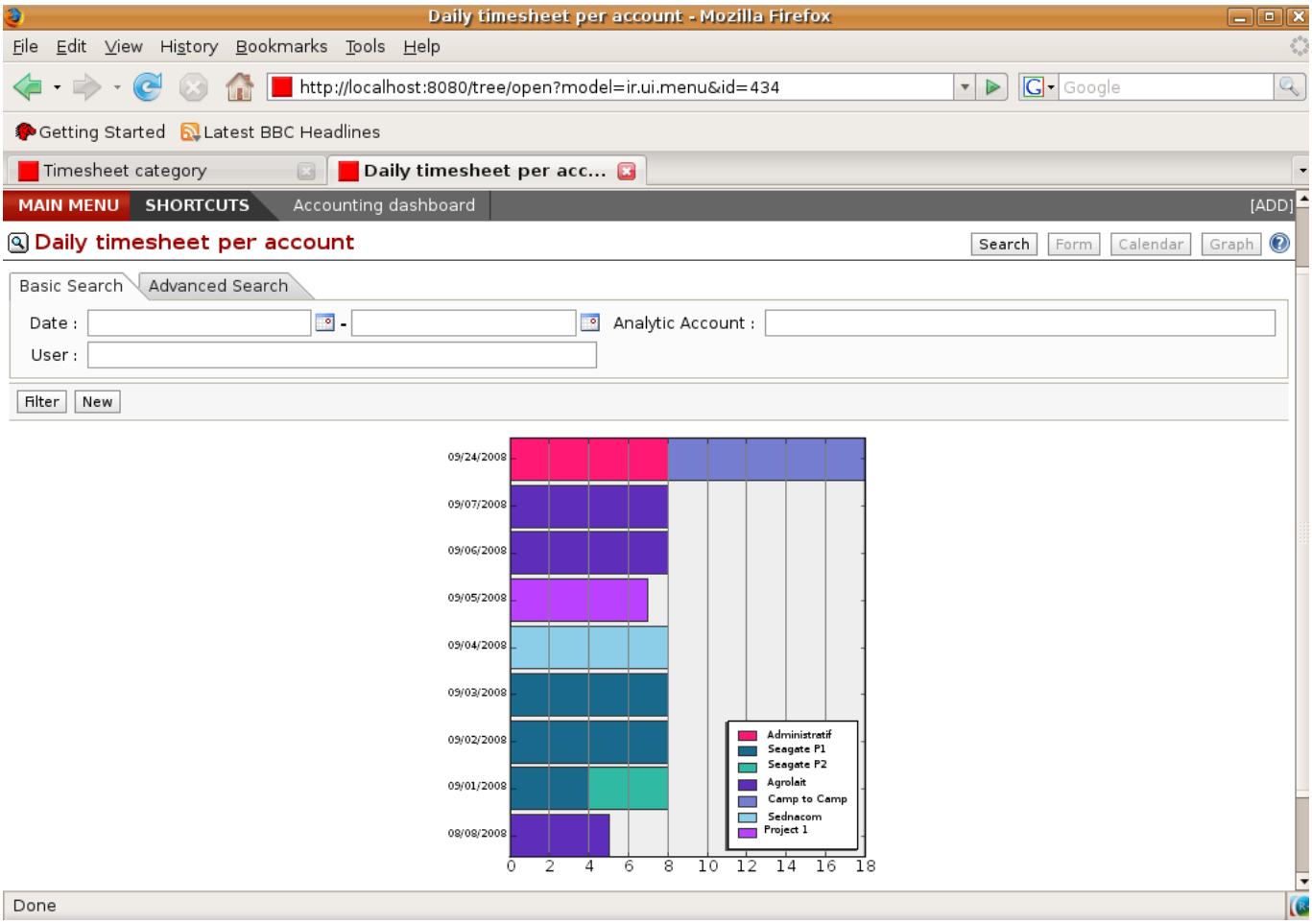


Chart of timesheet by account

- ***Daily Timesheet by Account***.

The data making up these graphs can be varied using the filters available in the upper part of the screen. If you want to get more exact figures, switch to the list view.

> **Note Dashboard**
>
> The dashboard for managing projects has a graphical view that summarizes the current user's timesheet for the last seven days.
>
> It's possible to assign a dashboard to users so that it appears when they sign onto Open ERP. Then each employee will be able to notice if they've forgotten to complete their timesheet when they signed out of the system.
>
> To use this dashboard, install the module `board_project`.

Evaluation of service costs

You already know that timesheets are closely linked with analytic accounts. The different projects reported on the timesheets correspond to analytic accounts. The timesheet entries themselves are analytic entries. These entries comprise various analytic operations that don't correspond to any of the general accounts. Therefore all operations that modify and create timesheet lines automatically impact the corresponding analytic line and, conversely are automatically modified by changes in that line.

> **Technique Timesheet and analytic entries**
>
> The implementation of timesheets in Open ERP relating to analytic entries is managed by an inheritance mechanism: the timesheet object inherits the analytic entry object.
>
> The information is therefore not encoded into the database as two separate events, which avoids many synchronization problems. They are stored in two different tables, however, because a service is an analytical entry, but an analytical entry isn't necessarily a service.

This isn't a classical approach but it's logical and pragmatic. Employee timesheets are a good indication of how the costs of a service enterprise are spread across different cases as reported in the analytic accounts.

An analytic account should be reflected in the general accounts, but there's no direct counterpart of these analytic accounts in the general accounts. Instead, if the hourly costs of the employees are correctly accounted for, the month's timesheet entries should be balanced by the salary + benefits package paid out to all the employees at the end of the month.

Despite all this it's quite difficult to work out the average hourly cost of an employee precisely because it depends on:

- the extra hours that they've worked,
- holidays and sickness,
- salary variations and all the linked costs, such as social insurance charges.

The reports that enable you to relate general accounts to analytic accounts are valuable tools for improving your evaluation of different hourly costs of employees. The difference between product balances in the analytic account and in the general accounts, divided by the total number of hours worked, can then be applied to the cost of the product. Some companies adjust for that difference by carrying out another analytic operation at the end of the month in an account created for that purpose. This analytic account should have a balance that tends towards zero.

Because you've got a system with integrated timesheets you can then:

- track the profitability of projects in the analytic accounts,
- look at the history of timesheet entries by project and by employee,
- regularly adjust hourly costs by comparing your rates with reality,

IMPORTANT Profitability of a project

Controlling the costs and the profitability of projects precisely is very important.

It enables you to make good estimates and to track budgets allocated to different services and their projects, such as sales and, R&D costs. You can also refine your arguments on the basis of clear facts rather than guesses if you have to renegotiate a contract with a customer following a project slippage.

The analyses of profitability by project and by employee are available from the analytic accounts. They take all of the invoices into account, and also take into account the cost of the time spent on each project.

The history of services by project is available in the timesheets or in the analytic accounts. For example, if a client asks for the history of a support contract you can use the report ***Cost Ledger (only by quantity)*** on an analytic account. In the report you print only the journals you select, so choose the timesheets journal.

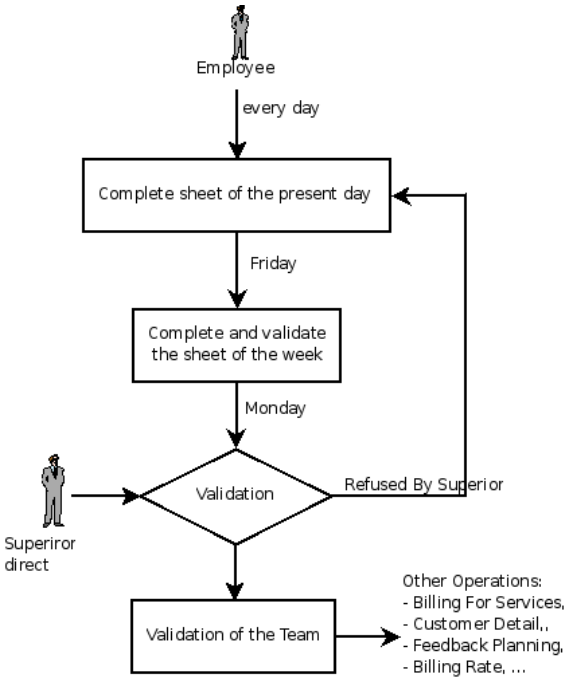
Managing by department

When they're used properly, timesheets can be a good control tool for project managers and can provide awareness of costs and times.

When employee teams are important, a control system must be implemented. All employees should complete their timesheets correctly because this forms the basis of planning control, and the financial management and invoicing of projects

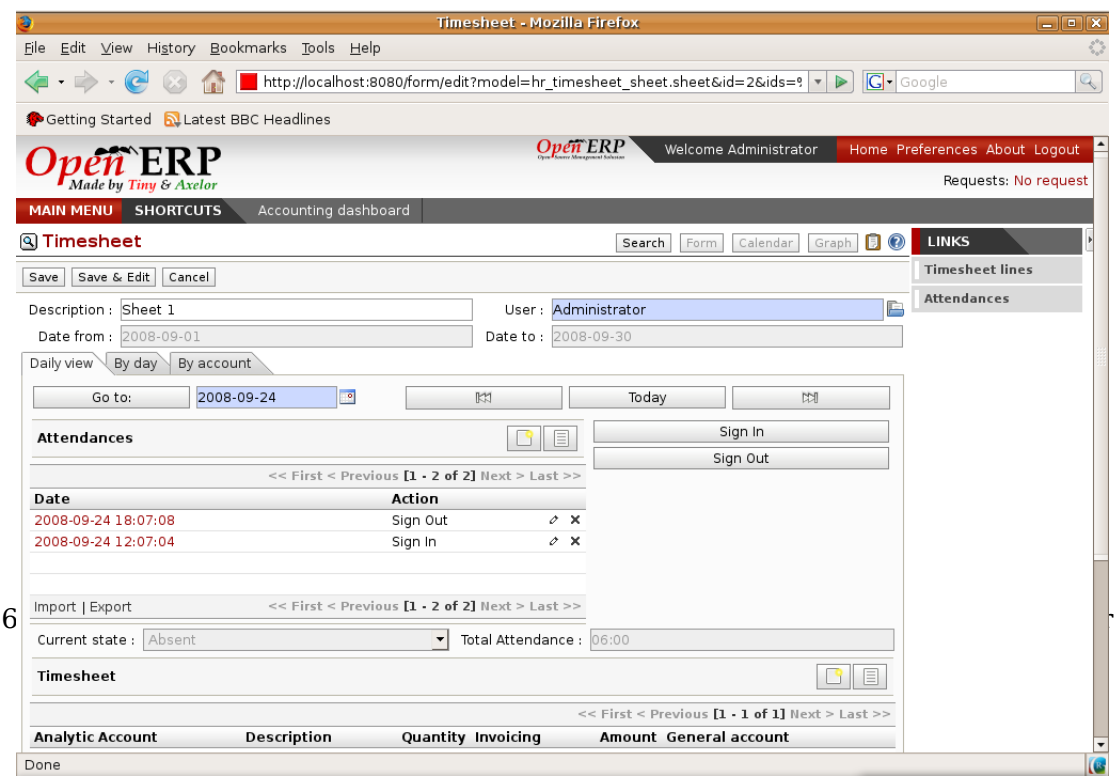
You'll see in the next chapter that it's possible to automatically invoice services at the end of the month based on the timesheet. But at the same time some contracts are limited to prepaid hours. These hours and their deduction from the original limit are also managed by these timesheets.

In such a situation, hours that aren't coded into the timesheets represent lost money for the company. So it's important to establish effective follow-up of the services timesheets and their encoding. To set up a structure for control using timesheets you should install the module `hr_timesheet_sheet`.



Process of approving a timesheet

This module supplies a new screen enabling you to manage timesheets by period. Timesheet entries are made by employees each day. At the end of the week, employees validate their week's sheet and it's then passed to the services manager, who must approve his team's entries. Periods are defined in the company forms, and you can set them to run monthly or weekly.

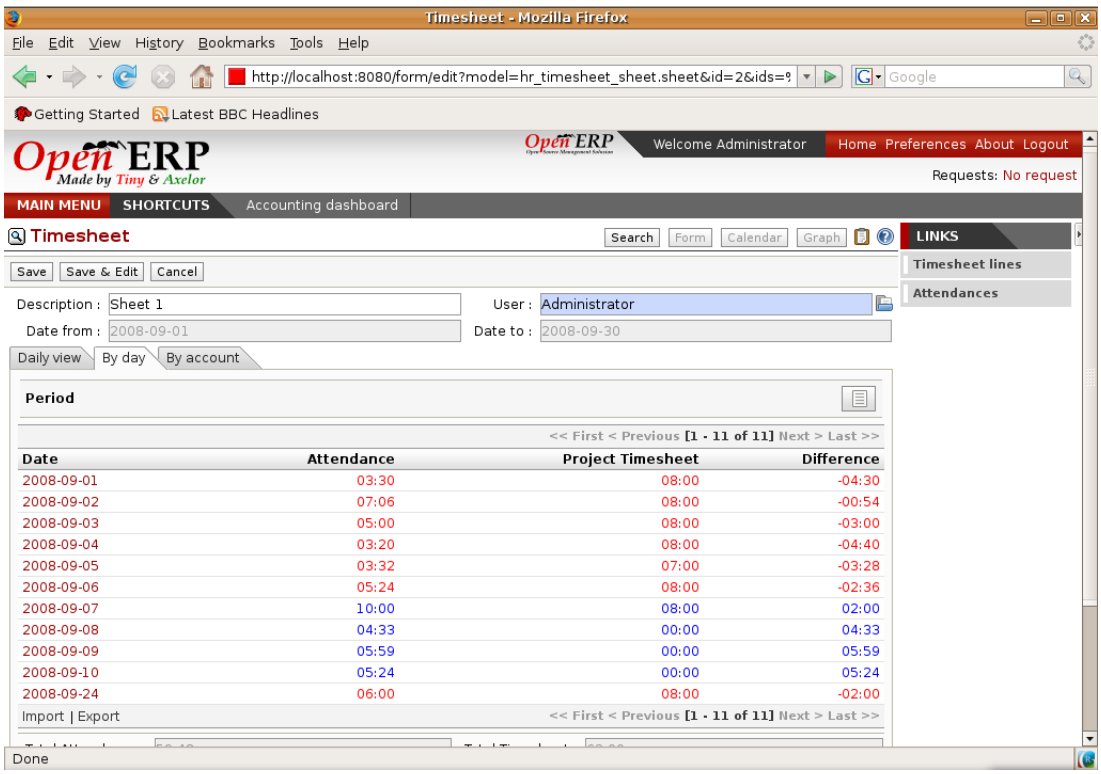


Form for entering timesheet data

To enter timesheet data each employee uses the menu ***Human Resources > Timesheets > My Timesheets > My Current Timesheet***.

In the upper part of the screen the user starts with the sign-in and sign-out times. The system enables the control of attendance day by day. The two buttons Sign in and Sign out enable the automatic completion of hours in the area to the left. These hours can be modified by employee, so it's not a true management control system.

The area to the bottom of the screen represents a sheet of the employee's time entries for the selected day. In total, this should comprise the number of hours worked in the company each day. This provides a simple verification that the whole day's attendance time has been coded in properly.



Detail of hours worked by day for an employee

The second tab of the timesheet ***by day*** gives the number of hours worked on the different projects. When there's a gap between the attendance and the timesheet entries, you can use the second tab to detect the days or the entries that haven't been correctly coded in.

The third tab, ***By account*** shows the time worked on all the different projects. That enables you to step back to see an overview of the time an employee has worked spread over different projects.

At the end of the week or the month, the employee confirms his timesheet. If the attendance time in the company corresponds to the encoded entries, the whole timesheet is then confirmed and sent to his department manager, who is then responsible for approving it or asking for corrections.

Each manager can then look at a list of his department's timesheets waiting for approval using the menu ***Human Resource > Timesheets > My Department's Timesheets > Timesheets to validate***. He then has to approve them or return them to their initial state.

To define the departmental structure, use the menu ***Administration > Users > Department Structure > Define Departments.***

ADVICE Importance of approvals

At first sight, the approval of timesheets by a department manager can seem a bureaucratic hindrance. This operation however is crucial for effective management. We have too frequently seen companies in the situation where managers are so overworked that they don't know what their employees are doing.

So this approval process supplies the manager with an outline of each employee's work at least once a week. And this is carried out for the hours worked on all the different projects.

Once the timesheets have been approved you can then use them for cost control and for invoicing hours to clients.

Contracts and their rates, planning, and methods of invoicing are the object of the following chapter.

11

The Management of Services

11

The Management of Services

Summary

- Management of prices
- Management of contracts
- Invoicing processes
- Enterprise planning
- Expense reimbursements

Keywords

- pricelist
- contract
- employee
- invoicing
- planning
- expense receipts

This chapter focuses on the management of contracts, and the services associated with that. The complete process of managing services is studied here: from defining prices and contracts to automatically invoicing the services, through planning and the treatment of additional costs such as expense receipts.

Price management policies

Some companies are notorious for their complicated pricelists. Many forms of price variation are used, such as end-of-year refunds, discounts, changes of terms and conditions with time, various prepayments, cascaded rebates, seasonal promotions, and progressive price reductions.

TERMINOLOGY Rebates, Refunds and Reductions

In some accounting jurisdictions you have to differentiate between the three following terms:

- **Rebate**: reimbursement to the client, usually at the end of the year, that depends on the quantity of goods purchased over a period.
- **Refund**: reduction on the order line or invoice line if a certain quantity of goods is purchased at one time or is sold in a framework of a promotional activity.
- **Reduction**: A one-off reduction resulting from a quality defect or a variation in a product's conformance to a specification.

Intelligent price management is difficult, because it requires you to integrate several conditions from clients and suppliers to create estimates quickly or to invoice automatically. But if you have an efficient price management mechanism you can often keep margins raised and respond quickly to changes in market conditions. A good price management system gives you scope for varying any and all of the relevant factors when you're negotiating a contract.

To help you work most effectively, Open ERP's pricelist principles are extremely powerful yet are based on simple and generic rules. You can develop both sales pricelists and purchase pricelists for products capable of accommodating conditions such as the date period, the quantity requested and the type of product.

DON'T CONFUSE The different prices

It's important not to confuse the sale price and the base price of a product. In the basic configuration of Open ERP the sale price is made equal to the base price marked on the product file but you can vary the sale price in response to other customer conditions.

It's the same for purchase price and standard cost. Purchase price is your suppliers' selling price, which changes in response to different criteria such as quantities, dates, and supplier. This is automatically set by the accounting system. You'll find that the two prices have been set to the same for all products by default with the demonstration data, which can be a source of confusion since you're free to set the standard cost to something different.

Each pricelist is calculated from defined policies, so you'll have as many sales pricelists as active sales policies in the company. For example a company that sells products through three sales channels could create the following price lists:

1. Main distribution:
   - pricelist for Walbury,
   - pricelist for TesMart,
2. Postal Sales.
3. Walk-in customers.

A single pricelist can exist in several versions, only one of which is permitted to be active at a given time. These versions let you set different prices at different points in time. So the pricelist for walk-in customers could have five different versions, for

example: `Autumn`, `Summer`, `Summer Sales`, `Winter`, `Spring`. Direct customers will see prices that change with the seasons.

Each pricelist is expressed in a single currency. If your company sells products in several currencies you'll have to create as many pricelists as you have currencies.

The prices on a pricelist can depend on another list, which means that you don't have to repeat the definition of all conditions for each product. So a pricelist in USD can be based on a pricelist in EUR. If the currency conversion rates between EUR and USD change, or the EUR prices change, the USD rates can be automatically adjusted.

Creating pricelists

To define a pricelist use the menu ***Products > Pricelists > Pricelists***.

For each list you have to define:

- a ***Name*** for the list,
- a ***Type*** of list: `Sale` for customers or `Purchase` for suppliers,
- the ***Currency*** in which the prices are expressed.

> **Terminology Consumer Price**
>
> If you install the module `edi` a third type of list appears – the Consumer Price, which defines the price displayed for the end user. This doesn't have to match your selling price to an intermediary or distributor.

Pricelist versions

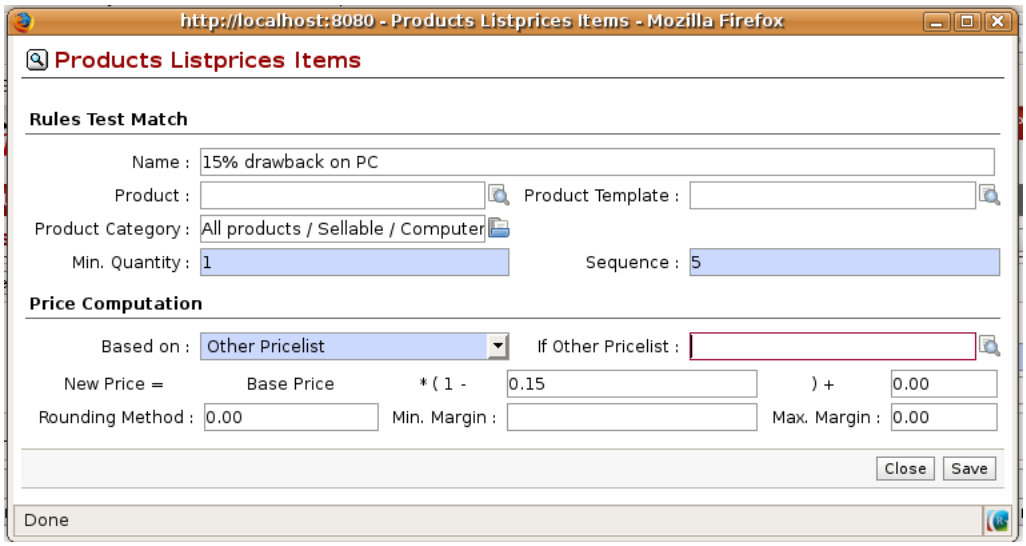
Once the list is defined you must provide it with at least one version. To do that use the menu ***Products > Pricelists > Pricelist Versions***. The version contains all of the rules that enable you to calculate a price for a product and a given quantity.

So set the ***Name*** of this associated version. If the list only has a single version you can use the same name for the pricelist and the version. In the ***Pricelist*** field select the pricelist you created.

Then indicate the ***Start date*** and ***End date*** of this version. The fields are both optional: if you don't set any dates the version will be permanently active. Use the ***Active*** field in the versions to activate or disable a pricelist version.

> **Note Automatically updating the sale pricelist**
>
> It's possible to make any sale pricelist depend on one of the other pricelists. So you can decide to make your sale pricelist depend on your supplier's purchase pricelist, to which you add a margin. The prices are automatically calculated as a function of the purchase price and need no further manual adjustment.

Rules for calculating price


http://localhost:8080 - Products Listprices Items - Mozilla Firefox
Products Listprices Items
Rules Test Match
Name : 15% drawback on PC
Product :
Product Template :
Product Category : All products / Sellable / Computer
Min. Quantity : 1
Sequence : 5
Price Computation
Based on : Other Pricelist
If Other Pricelist :
New Price = Base Price * (1 - 0.15) + 0.00
Rounding Method : 0.00
Min. Margin :
Max. Margin : 0.00
Close
Save
Done

Detail of a rules in a pricelist version

A pricelist version is made up of a set of rules that apply to the product base prices.

You define the conditions for a rule in the first part of the definition screen labeled ***Rules Test Match***. The rule applies to the ***Product*** or ***Product Template*** and/or the named ***Product Category***. If a rule is applied to a category then it is automatically applied to all of its subcategories too (using the tree structure for product categories).

If you set a minimum quantity in ***Min. Quantity*** the rule will only apply to a quantity the same as or larger than that indicated. This lets you set reduced rates in stages that depend on ordered quantities.

Several rules can be applied to an order. Open ERP evaluates these rules in sequence to select which to apply to the specified price calculation. If several rules are valid only the first in sequence is used for the calculation. The ***Sequence*** field determines the order, starting with the lowest number.

Once a rule has been selected, the system has to determine how to calculate the price from the rule. This operation is based on the criteria set out in the lower part of the form, labeled ***Price Computation***.

The first field you have to complete is labeled ***Based on***. You must indicate the mode of calculating the partner price. You have the choice between:

- the `List Price set` in the product file,
- the `Standard Cost set` in the product file,
- an `Other Pricelist` given in the field ***If Other Pricelist***,
- the price that varies as a function of a supplier defined in the `Partner section of the product form`.

Several other criteria can be considered and added to the list, as you'll see in the following section.

Next, various operations can be applied to the base price to calculate the sales or purchase price for the partner at the specified quantities. To calculate it you apply the formula shown on the form:

```
Price = Base Price x (1 – Field1) + Field2
```

The first field (***Field1*** in the formula above) represents a discount. For example, enter `0.20` for a discount of 20% from the base price. If your price is based on Standard Cost you can enter `-0.15` to obtain a 15% uplift on the sale price compared with the standard cost.

Field2 is a fixed supplement expressed in the currency of the pricelist. The amount is just added to (or deducted from, if negative) the amount calculated after the discount applied by ***Field1***.

You can also specify a ***Rounding Method***. The rounding calculation is made to the nearest number. For example if you enter `0.05` then a price of `45.66` will be rounded to `45.65`. And a price of `14,567` rounded to the nearest `100` will give a price of `14,600`.

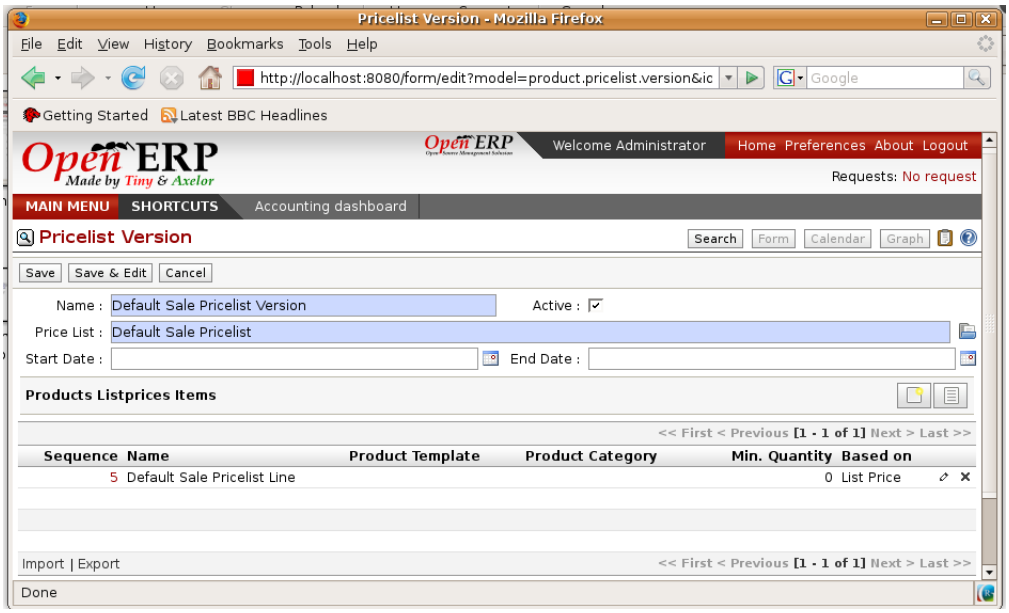
> **ATTENTION Swiss special situation**
>
> In Switzerland, the smallest monetary unit is 5 cents. There aren't any 1 or 2 cent coins. So you set Open ERP's rounding to `0.05` to round everything in a Swiss franc pricelist.

The addition of ***Field2*** is applied after the rounding calculation, which can be very helpful in specific pricing situations. For example, if you want your price to end in `9.99`, round it to `10` and then apply a supplement of `-0.01` in ***Field2***.

The ***Min. Margin*** and ***Max. Margin*** fields ensure that you can guarantee a margin over the base price. So a margin of `10` enables you to ensure that the return won't drop below a margin of `10` . If you set this field to `0` then it has no effect on the calculation.

Once the pricelist is defined you can assign it to a partner. To do this, find a Partner and select its ***Properties*** tab. You can then change the ***Purchase Pricelist*** and the ***Sale Pricelist*** that's loaded by default for the partner.

Default pricelists



Default pricelists after the installation of Open ERP

When you install the software two pricelists are created by default: one for sales and one for purchase. These each contain only one pricelist version and only one line in that version.

The Sale Price is set by default to the value given in the ***List Price*** in the product file. No discount, no supplement, nor any rounding, are defined to influence the price calculation. This default rule is applied to all products and all categories of product for a minimum quantity of 1. So the sale price of a product comes from the price specified in the product file. In this way, companies that don't need specialized pricelists can just use the price defined in the product file.

The price for purchases that's defined in the Default Purchase Pricelist is set in the same way by the Standard Cost of the product in the product file.

Case of using pricelists

Let's take the case of an IT systems trading company, for whom the following product categories have been configured:

All products
1 Accessories
- Printers
- Scanners
- Keyboards and Mice

2 Computers

- Portables
  - Large-screen portables
- Computers
  - Office Computers
  - Professional Computers

In addition, the products presented in the table below are defined in the currency of the installed chart of accounts.

Examples of products with their different prices

Product	List Price	Standard Price	Default supplier price
Acclo Portable	1 200	887	893
Toshibishi Portable	1 340	920	920
Berrel Keyboard	100	50	50
Office Computer	1 400	1 000	1 000

Defining the list price

Now define the sale price for resellers like this:

- For portable computers, the sale price is calculated from the list price of the supplier Acclo, with a supplement of 23% on the cost of purchase.
- For all other products the sale price is given by the standard cost in the product file, on which 31% is added. The price must end in ".99".
- The sale price of Berrel keyboards is fixed at 60 for a minimum quantity of 5 keyboards purchased. Otherwise it uses the rule above.

Assume that the Acclo pricelist is defined in Open ERP. The pricelist for resellers and the pricelist version then contains three lines:

1 `Acclo` line:
   - ***Product Category***: `Portables`,
   - ***Based on***: `Other pricelist`,
   - ***Pricelist if other***: `Acclo pricelist`,
   - ***Field1***: `-0.23`,
   - ***Sequence***: `1`.

2 `Berrel Keyboard` line:
   - ***Product Template***: `Berrel Keyboard`,
   - ***Min. Quantity***: `5`,
   - ***Field1***: `1.0`,
   - ***Field2***: `60`,
   - Sequence: `2`.

3 `Other products` line:
   - ***Based on:*** `Standard Price`,
   - ***Field1***: `-0.31`,

- ***Field2***: `-0.01`,
- ***Sequence***: `3`.

The ***Sequence*** field to the second rule must be set below that of the third rule in this example. If it's not, the third rule will always be applicable because a quantity of 5 is greater than a quantity of 1 for all products.

Also note that to fix a price of 60 for the 5 Berrel Keyboards, the formula `Price = Base Price x (1 – 1.0) + 60` has been used.

Establishing customer contract conditions

The trading company can now set specific conditions to a customer, such as the company TinAtwo, who might have signed a valid contract with the following conditions:

- For Toshibishi portables, TinAtwo benefits from a discount of 5% of resale price.
- For all other products, the resale conditions are unchanged.

The list price for TinAtwo, called “TinAtwo contract”, contains two rules:

1 `Toshibishi portable` line:

- ***Product***: `Toshibishi Portable`,
- ***Based on***: `Other pricelist`,
- ***Pricelist if other***: `Reseller pricelist`,
- ***Field1***: `0.05`,
- ***Sequence***: `1`.

2 `Other Products` line:

- ***Product:***
- ***Based on***: `Other pricelist`,
- ***Pricelist if other***: `Reseller pricelist`,
- ***Sequence***: `2`.

Once this list has been entered, find the partner file for the company `TinAtwo`. Click on the ***Properties*** tab and then the field ***Sale Pricelist*** to select `TinAtwo Contract`. Since the contract is only valid for one year, fill in the ***Start date*** and ***End date*** fields in the pricelist version.

Then when salespeople prepare an estimate for TinAtwo prices proposed will automatically be calculated from the contract conditions.

Other bases of price calculation

Open ERP provides a way of making prices depend on any field of the product form, not just the two predefined fields: `List Price` and `Cost Price`.

To do this, use the menu ***Products > Configuration > Price Types***. Then create a new entry corresponding to a new type of price. Enter the name of the field (for example: `Public Price`) and the the product field that it corresponds to (***Public Price***) and the currency

that it's expressed in. New fields are added to the product file so that they can be used in calculations.

Once you've done this you can make a dependency on the new type of price in the pricelist.

So, by adding the field ***Weight*** and/or ***Volume*** you can vary the price of a product piece as a function of its weight and/or its volume. This is different from defining a price by weight because in that case the default unit of measure would be weight and not by piece (for example you could now have 'a box of cherries' priced individually rather than '200g of cherries' priced per gram).

Managing the price in several currencies

Since each pricelist is defined in a single currency you must create separate pricelists for the other currencies that you sell in. So, if your trading company wants to start a product catalog in a new currency, you have several possibilities:

- Code the price in a new independent pricelist and maintain the lists in the two currencies separately.
- Create a field in the product form for the new currency and make the pricelist depend on the new field: the prices are then maintained separately, but in the product file.
- Create a new pricelist for the second currency and make this list depend either on another pricelist or on a product price: the conversion between currencies will be done automatically at the latest rates. This solution is generally the most flexible and the simplest to maintain as prices change with time.

Managing Service Contracts

Contracts can take different forms within Open ERP, depending on their nature. So you can have several distinct types of service contract, such as:

- fixed-price contracts
- cost-reimbursement contracts, invoiced when services are completed,
- fixed-price contracts, invoiced monthly as services are carried out.

CASE Contract quotations

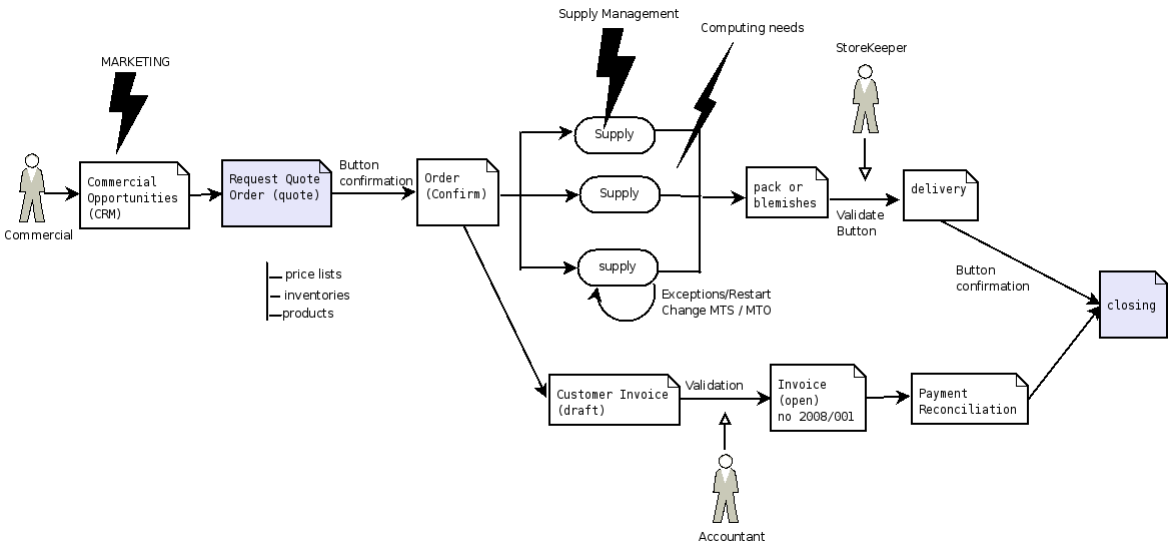
Some companies commit to contracts on the basis of a requested volume at a certain price for a defined period. In this case the contract is represented by a pricelist for that specific customer.

The pricelist is linked in the Properties tab of the customer's Partner form, so that it is brought up whenever anything is bought from or sold to this partner (depending on whether it's a purchase or sales agreement). Open ERP automatically selects a price based on this agreed pricelist.

Fixed Price contracts

Fixed price contracts for the sale of services are represented in Open ERP by a Sales Order. In this case, the supply of services is managed just like all other stockable or consumable products.

You can add new orders using the menu ***Sales Management > Sales Order***.



Process for handling a Sales Order

The new Sales Order document starts in the `Quotation` state, so the estimate has no accounting impact on the system until it's confirmed. When you approve the document, your estimate moves into the state `In Progress`.

Once the order has been approved, Open ERP will automatically generate an invoice and/or a delivery document proposal based on the parameters you set in the order.

The invoice will be managed by the system depending on the setting of the field ***Shipping Policy*** on the order's second tab, ***Other data***:

- ***Payment before delivery***: Open ERP c
Draft s
- ***Automatic Invoice after delivery***:
th
e
delivery
- ***Shipping & Manual Invoice***: Open ERP starts the delivery from the confirmation of the order, and adds a button which you manually click when you're ready to create an invoice.
- ***Invoice from the Packings***: the invoice will be created from the delivery rather than the order. This is the method most commonly used by trading companies.

ATTENTION Delivery of an order

The term 'delivery' should be taken in the broadest sense in Open ERP. The effect of a delivery depends on the configuration of the sold product.

If its type is either `Stockable Product` or `Consumable`, Open ERP will make a request for it to be sent for packing. If the product's type is `Service` Open ERP's scheduler will create a task in the project management system, or create a subcontract purchase order if the product's ***Procure Method*** is `Make to Order`.

Invoicing after delivery does as it says: invoicing for the services when the tasks have been closed.

When you sign a new contract you can just enter the order into the system and Open ERP will track the order.

This works well for small orders. But for larger value services orders you might want to invoice several times through the contract, for example:

- 30% on order,
- 40% on completion,
- 30% one month after the system has gone into production.

In this case you should create several invoices for the one order. You've two options for this:

- Don't handle invoicing automatically from the order but carry out manual invoicing instead,
- Create draft invoices and then link to them in the third tab ***History***, in the ***Related Invoices*** section. When you create an invoice from the order, Open ERP deducts the amounts of the invoices already linked to the order to calculate the proposed invoice value.

Cost-reimbursement contracts

Some contracts aren't invoiced from a price fixed on the order but from the cost of the services carried out. That's usually what happens in the building sector or in large projects.

The approach you use for this is totally different because instead of using the sales order as the basis of the invoice you must use the analytic accounts. For this you have to install the module `hr_timesheet_invoice`.

An analytic account is created for each new contract. The following fields must be completed in this analytic account:

- ***Partner***: partner associated with the contract,
- ***Sale Pricelist***: pricelist for the products (services) specified in the contract,
- ***Invoicing*** rate: (for example 100%).

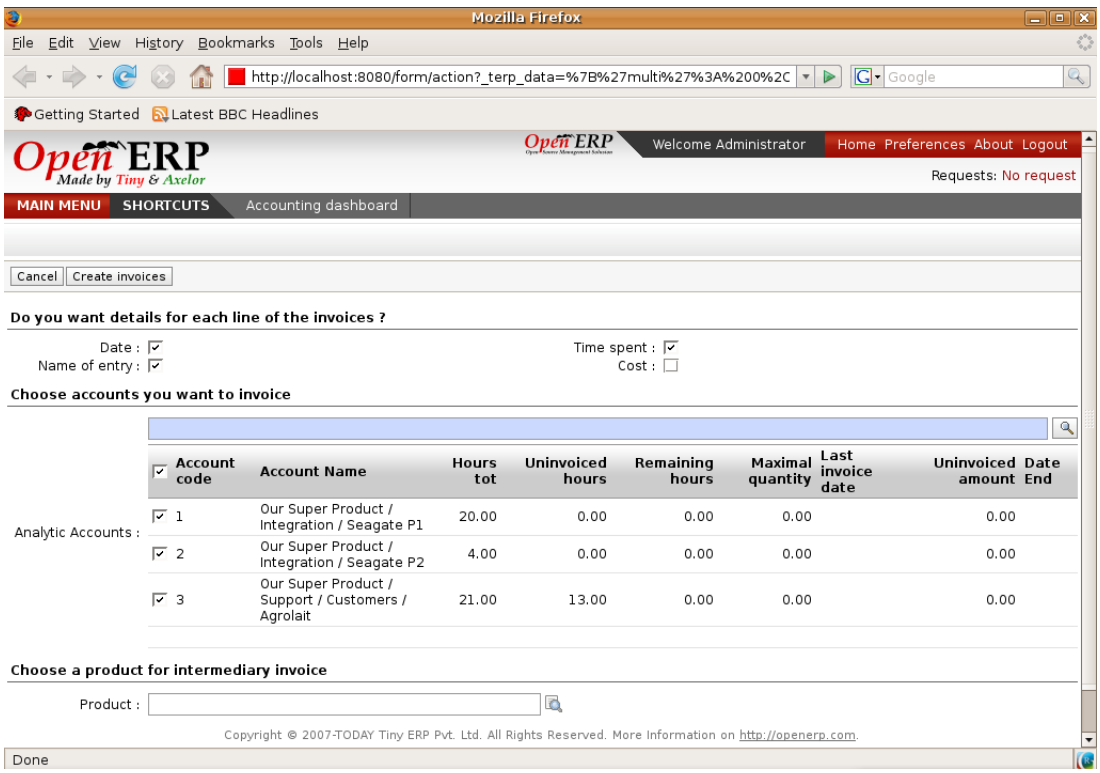
The selection of an invoicing rate is an indirect way of specifying that the project will be invoiced on the basis of analytic costs. This can take different forms, such as delivery of services, purchase of raw materials, and expense reimbursements.

ADVICE Pricelists and billing rates

You can select a pricelist on the analytic account without having to use it to specify billing rates.

This case is for a client project that is to be invoiced, but not directly from the analytic costs. Putting the price list on the analytic account makes it possible to compare the actual sales with the best case where all the services would be invoiced. To get this comparison you have to print the analytic balance from the analytic account.

Services are then entered onto timesheets by the various people who work on the project. Periodically the project manager or account manager uses the following menu to prepare an invoice: ***Financial Management > Periodical Processing > Invoicing on a Time basis > Uninvoiced Hours***.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Getting Started Latest BBC Headlines
Open ERP
Made by Tiny & Axelor
Welcome Administrator
Home Preferences About Logout
Requests: No request
MAIN MENU SHORTCUTS Accounting dashboard
Cancel Create invoices
Do you want details for each line of the invoices ?
Date :
Name of entry :
Time spent :
Cost :
Choose accounts you want to invoice
Account code
Account Name
Hours tot
Uninvoiced hours
Remaining hours
Maximal quantity
Last invoice date
Uninvoiced amount
Date End
Analytic Accounts :
1 Our Super Product / Integration / Seagate P1 20.00 0.00 0.00 0.00 0.00
2 Our Super Product / Integration / Seagate P2 4.00 0.00 0.00 0.00 0.00
3 Our Super Product / Support / Customers / Agrolait 21.00 13.00 0.00 0.00 0.00
Choose a product for intermediary invoice
Product :
Copyright © 2007-TODAY Tiny ERP Pvt. Ltd. All Rights Reserved. More Information on http://openerp.com.
Done

Screen for invoicing services

Open ERP then displays all of the costs that haven't yet been invoiced. You can filter the proposed list and click the appropriate action button to generate the corresponding invoices. You can select the level of detail which is reported on the invoice, such as the date and details of the services.

Project managers or account managers can invoice services on different projects as they need. For an overview of that they can open the projects that they're responsible for from the menu ***Project Management > Analytic Accounts***.

> **POINT Project Management and analytic accounts**
>
> The menu ***Project Management > Analytic Accounts*** is only available once you have installed the module `account_analytic_analysis`. It provides various global financial and operational views of a project manager's projects.

Select a project and open its analytic entries using the ***Costs to invoice*** button. You'll find a list of costs that can be invoiced to the client:

- time worked,
- expense reimbursement,
- purchase of raw materials.

You can then invoice the selected lines using the action ***Invoice costs***.

Fixed-price contracts invoiced as services are worked

For larger-value projects, fixed-price invoicing based on the sales order isn't always appropriate. In the case of a services project planned to run for about six months. invoicing could be based on the following:

- 30% on order,
- 30% at the project mid-point,
- 40% at delivery.

Such an approach is often used in a company but there are other options. This method of invoicing can pose many problems for the organization and invoicing of the project:

- It's extremely difficult to determine if the project is on track or not.. The endpoint is fuzzy, which can result in a tricky discussion with the client at the moment of final invoicing.
- If the project takes more or less time than forecast, it will effectively result in under- or over- invoicing during the project.
- Whether you get a proper return can depend on the client. For example if the client takes a long time to sign off on project acceptance you can't invoice the remaining 40% even though you might have supplied the agreed service properly.
- The account manager and the project manager are often different people. The project manager has to alert the account manager the moment that the client can be invoiced, but that moment easily can be forgotten or mistaken.
- The project can be fixed for service costs but have agreed extras, such as reimbursement for travel expenses. Invoicing from the order doesn't adapt well to such an approach.

Open ERP provides a third method for invoicing services that can be useful on long projects. This consists of invoicing the project periodically on the basis of time worked

up to a fixed amount that can't be exceeded. At the end of the project a final invoice or a credit note is generated to meet the total amount of value fixed for the project.

To configure such a project you must set an invoicing rate, a pricelist and a maximum amount on the analytic account for the project. The services are then invoiced throughout the project by the different project or account managers, just like projects that are invoiced by time used. The managers can apply a refund on the final invoice if the project takes more time to complete than permitted under the contract.

When the project is finished you can generate the closing invoice using the ***Final Invoice*** button on the analytic account. This automatically calculates the final balance of the bill, taking the amounts already charged into account. If the amount already invoiced is greater than the maximum agreed amount then Open ERP generates a draft credit note.

This approach offers many advantages compared with the traditional methods of invoicing in phases for fixed-price contracts:

- Fixed-price contracts and cost-reimbursable contracts are invoiced in the same way, which makes the company's invoicing process quite simple and systematic even when the projects are mixed.
- Everything is invoiced on the basis of worked time, making it easy to forecast invoicing from plans linked to the different analytical accounts.
- This method of proceeding educates project managers just as much as the client because refunds have to be given for work done if the project slips.
- Invoicing follows the course of the project and avoids a supplier's dependence on the goodwill of the client in approving certain phases.
- Invoicing of expenses follows the same workflow and is therefore very simple.

ADVICE Negotiating contracts

In contract negotiation, invoicing conditions are often neglected by the client. So it can often be straightforward to apply this method of invoicing.

Contracts limited to a quantity

Finally certain contracts are expressed in terms of a quantity rather than a fixed amount. Support contracts comprising a number of prepaid hours are a case in point. To generate such contracts in Open ERP you should start by installing the module `account_analytic_analysis`.

Then you can set a maximum number of hours for each analytic account. When employees enter their time worked on the support contract in the timesheets, the hours are automatically deducted from the maximum set on each analytic account.

You must also name someone in the company responsible for renewing expired contracts. They become responsible for searching through the list of accounts showing negative remaining hours.

The client contract can be limited to a certain quantity of hours, and it can also be limited in time. For that, you set an end date for the corresponding analytic account.

Planning that improves leadership

Planning in a company often takes the form of a regular meeting between the different teams. Each team has a certain number of projects and objectives that they must organize and establish priorities for.

Ideally these planning meetings should be short but regular and systematic. They can be weekly or monthly depending on the type of activity. A planning meeting often runs in three phases:

1 Minutes of the preceding period, and analysis of the work done compared with the planned work.
2 Introduction of new projects.
3 Planning the next period.

The planning function covers several objectives which will be described in this section:

- planning live projects against the commitments that have been made to clients,
- determining staffing (HR) requirements in the coming month,
- setting work for each employee or team for the periods to come,
- analyzing the work done in the preceding periods,
- passing the high-level objectives to lower levels in the company's hierarchy.

ADVICE Social role of planning

Some project managers think that they can manage planning on their own. They're commonly overworked and think that meetings are a waste of time.

Even if staff really can manage their work for themselves, note that this regular meeting is also aimed at reassurance. Without it you can get into unduly stressful situations from:

- feelings of overwork because they have lost sight of their priorities,
- lack of feedback and tracking of the work actually completed,
- an impression of poor organization if that hasn't been made explicit.

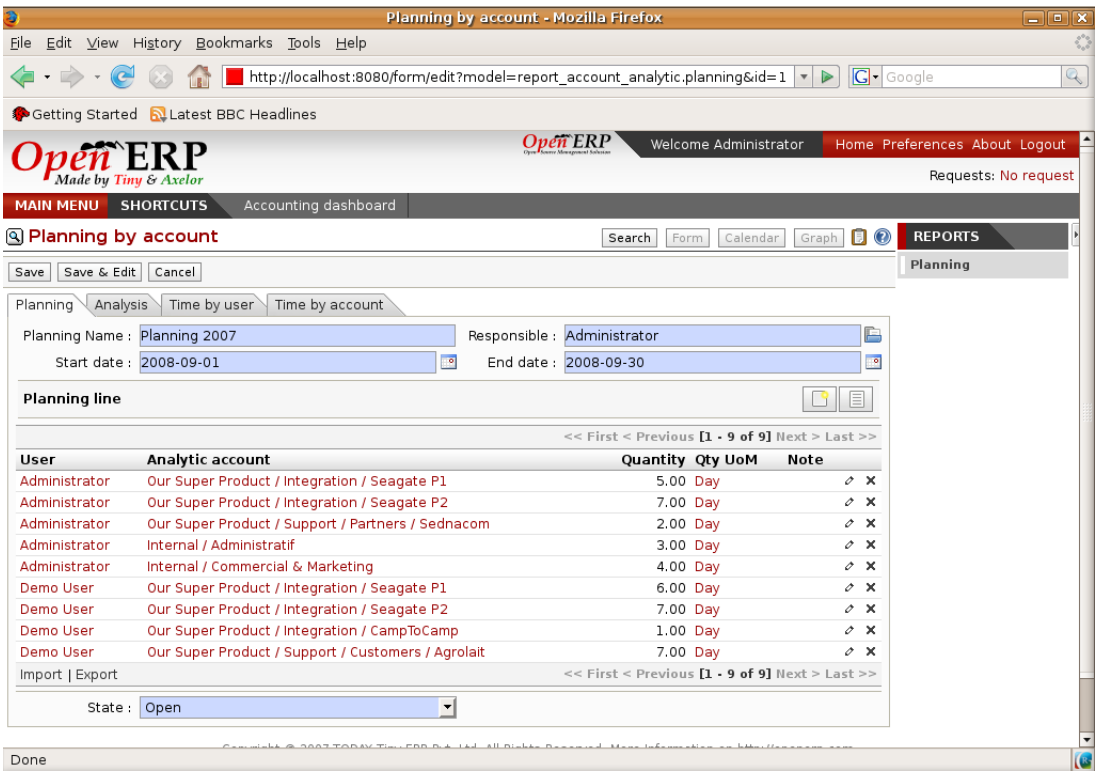
So the social role of planning shouldn't be neglected. We have often experienced a background of stress in a company stemming from a lack of communication and planning.

Planning by time or by tasks?

There are two major approaches to enterprise planning: planning by task and planning by time. You can manage both with Open ERP.

In planning by task, the project manager assigns tasks from the different projects to each employee over a given period. Employees then carry out precisely the work they've been assigned by the project manager.

Planning by time consists of allocating, for each employee, some time on each of the different projects for the period concerned. The tasks for each project are ordered by priority and can be directly assigned to a user or left unassigned. Each employee then chooses the task that he or she will do next, based on the plans and the relative priorities of the tasks.


Planning by account - Mozilla Firefox
File Edit View History Bookmarks Tools Help
http://localhost:8080/form/edit?model=report_account_analytic.planning&id=1
Getting Started Latest BBC Headlines
Open ERP Made by Tiny & Axelor
Welcome Administrator Home Preferences About Logout
Requests: No request
MAIN MENU SHORTCUTS Accounting dashboard
Planning by account
Search Form Calendar Graph
REPORTS
Planning
Save Save & Edit Cancel
Planning Analysis Time by user Time by account
Planning Name : Planning 2007
Responsible : Administrator
Start date : 2008-09-01
End date : 2008-09-30
Planning line
<< First < Previous [1 - 9 of 9] Next > Last >>
User Analytic account Quantity Qty UoM Note
Administrator Our Super Product / Integration / Seagate P1 5.00 Day
Administrator Our Super Product / Integration / Seagate P2 7.00 Day
Administrator Our Super Product / Support / Partners / Sednacom 2.00 Day
Administrator Internal / Administratif 3.00 Day
Administrator Internal / Commercial & Marketing 4.00 Day
Demo User Our Super Product / Integration / Seagate P1 6.00 Day
Demo User Our Super Product / Integration / Seagate P2 7.00 Day
Demo User Our Super Product / Integration / CampToCamp 1.00 Day
Demo User Our Super Product / Support / Customers / Agrolait 7.00 Day
Import | Export
<< First < Previous [1 - 9 of 9] Next > Last >>
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Monthly planning for work time of each employee

The figure shows a monthly planning session where plans are being made for each employee to spend a number of days' work on various different projects.

In this time-focused planning approach, clients' priorities don't figure in the planning any more, but are explicit in the task list instead. So this approach helps you separate the planning of human resources on projects from the task prioritization within a project.

Example Comparing the two planning methods

To illustrate the difference between planning by time and planning by task, take the case of an IT project that's estimated to be around six months of work. This project is managed by iterative cycles of

development of around a month and a presentation is made to the client at the end of each cycle to track the progress of the project. At this meeting you plan what must be carried out for the following month. At the end of the month the account manager for the project invoices the client for the work done on the project.

Suppose that the project encounters a delay because it is more complex than expected. There are two ways of resolving the delay if you have no further resources: you can be late in your delivery of the planned functions or on time, but with fewer functions than planned.

If your planning is based on phases and tasks you'll report at the client meeting that it will take several weeks to complete everything that was planned for the current phase. Conversely, if you're planning by time you'll keep the meeting with the client to close the present development phase and plan the new one, but only be able to present part of the planned functionality.

If the client is sensitive to delay, the first approach will cause acute unhappiness. You'll have to re-plan the project and all of its future phases to take account of that delay. Some problems are also likely to occur later with invoicing, because it will be difficult for you to invoice any work that has been completed late but hasn't yet been shown to the client.

The second approach will require you to report on the functions that haven't been completed, and on how they would fit into a future planning phase. However that won't involve a break in the working time allocated to the project. You'd then generate two different lists: a staffing plan for the different projects, and the list of tasks prioritized for the client's project. This approach offers a number of advantages over the first one:

- The client will have the choice of delaying the end of the project by planning an extra phase, or letting go of some minor functions to be able to deliver a final system more rapidly,
- The client may re-plan the functions taking the new delay into account.
- You'll be able to make the client gradually aware of the fact that project progress has come under pressure and that work is perhaps more complex than had been estimated at the outset.
- A delay in the delivery of several of the functions won't necessarily affect either monthly invoicing or project planning.

Being able to separate human resource planning from task prioritization simplifies your management of complex issues, such as adjusting for employee holidays or handling the constantly changing priorities within projects.

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Creating plans

Install the module `report_analytic_planning` to manage planning in Open ERP. Once this module has been installed you can create your monthly plans through the menu ***Human Resources > Planning > Planning***.

On each planning line you should enter the user, the analytic account concerned, and the quantity of time allocated. The quantity will be expressed in hours or in days depending on the unit of measure used. For each line you can add a brief note about the work to be done.

Once the plan has been saved, use the other tabs of the planning form to check that the amount of time allocated to the employees or to the projects is right. The time allocated must correspond to the employees' employment contract, for example 37.5 hours per week. The forecast time for the project must match the commitments that you've made with client.

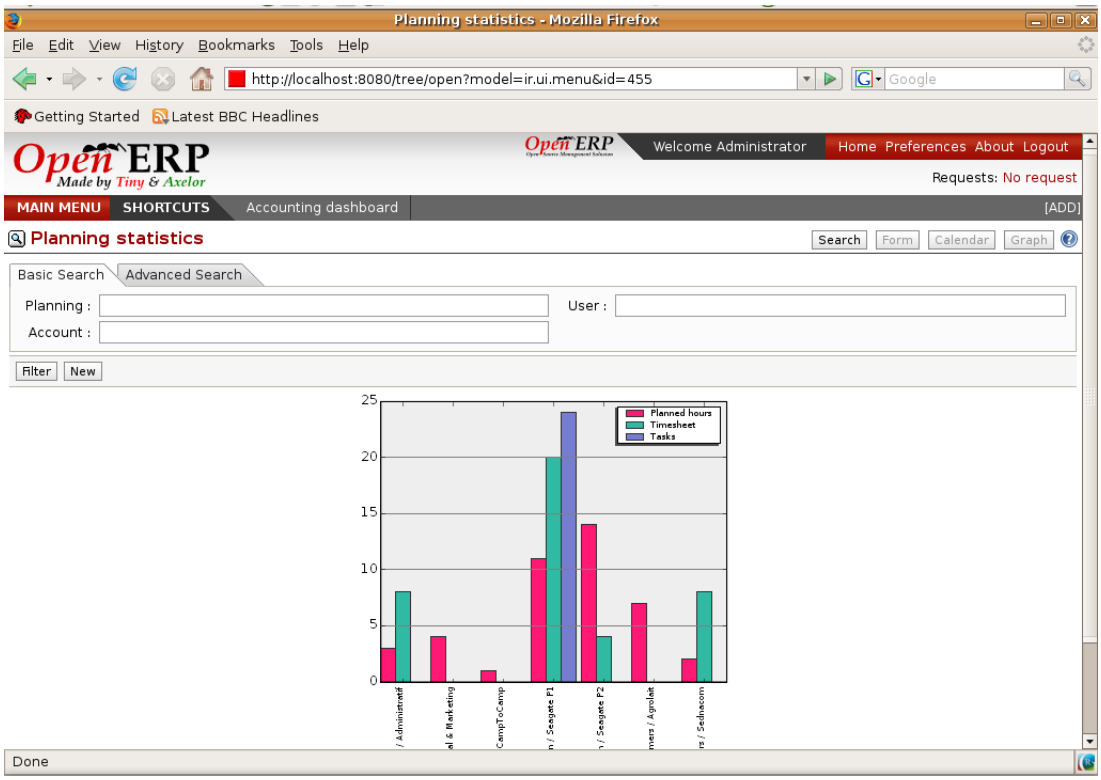
You should ideally complete all the planning for the current period. You can also complete some lines in the planning of future months – reserving resources on different project in response to your client commitments, for example This enables you to manage your available human resources for the months ahead.

Using planning well

Plans can be printed and/or sent to employees by email. If you install the module `board_project`, each employee can be given access to a dashboard that graphically shows the time allocated to him or her on a project and the time that's been worked so far. So each employee can decide which projects should be prioritized.

The employee then selects a task in the highest priority project. She ideally chooses either a task that has been directly assigned to her, or one which is high on the priority list that she's capable of completing, but is not yet directly assigned to anybody.

At the end of the period you can compare the duration of effective work on the different project to that of the initial estimate. Print the plan to obtain a comparison of the planned working time and the real time worked.



Comparison of planned hours, worked hours and the productivity of employees by project

You can also study several of your project's figures from the menu ***Human Resources > Reporting > Planning***.

Planning at all levels of the hierarchy

To put planning in place across the whole company you can use a system of planning delegation. For this, install the module `report_analytic_planning_delegate`.

When you've installed this module, the planning entry form changes to reflect the hierarchical structure of the company. To enter data into a plan line you can:

- assign time on a project to an employee,
- assign time on a project to a department manager for his whole team.

You can now allocate the working time on projects for the whole of a department, without having to detail each employee's tasks. Then when a department manager creates his own plan he will find what's required of his group by his management at the bottom of the form. At the top of the form there's the place for assigning project work in detail to each member of department.

If you don't have to plan time to work on a final draft you can do it on an analytic account that relies on child accounts. This means that you can create plans to meet

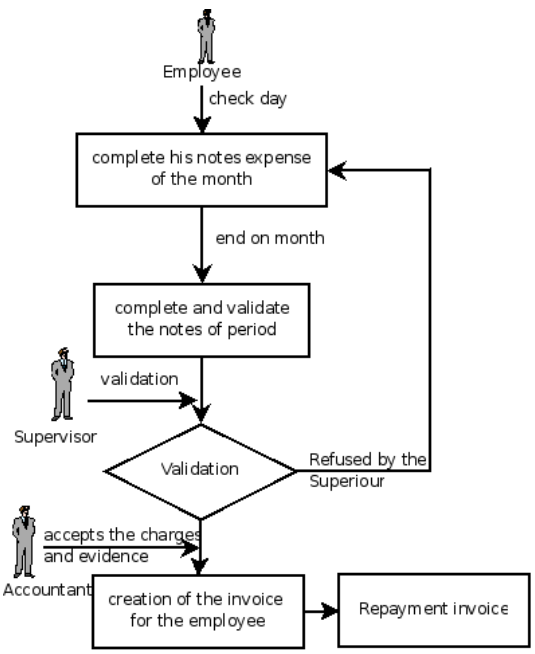
top-level objectives of the senior management team and then cascade them down through the different departments to establish a time budget for each employee. Each manager then uses his own plans for managing his level in the hierarchy.

Treatment of expenses

Employee expenses are charges incurred on behalf of the company. The company then reimburses these expenses to the employee. The receipts encountered most frequently are:

- car travel, reimbursed per unit of distance (mile or kilometer),
- restaurant expenses, reimbursed based on the bill,
- other purchases, such as stationery and books, destined for the company but carried out by the employee.

An integrated process



Process for dealing with expense reimbursements

Expenses generated by employees are grouped into periods of a week or a month. At the end of the period the employee confirms all of her expenses and a summary sheet is sent to the department manager. The manager is responsible for approving all the expense requests generated by his team. The expenses sheet must be signed by the employee, who also attaches her receipts there.

Once the sheet has been approved by the head of department it is sent to accounts, who register the company's liability to the employee. Accounting can then pay this invoice and reimburse the employee who originally advanced the money.

Some receipts are for project expenses, so these can then be attached to an analytic account. The costs incurred are then added to the supplementary cost of the analytic account when the invoice is approved.

You often need to invoice expenses to a client, depending on the precise contract that's been negotiated. Traveling and subsistence expenses are generally handled this way. These can be recharged to the client at the the end of the month if the contract price has been negotiated plus expenses.

If you have to go through many steps to reclaim expenses, it can all quickly become too cumbersome, especially for those employees who claim large numbers of different expense lines. If you've got a good system that integrates the management of these claims, such as the one described, you can avoid many problems and subtly increase staff productivity.

If your systems handle expenses well then you can avoid significant losses by setting your terms of sale effectively. In fixed-price contracts, expense reimbursements are usually invoiced according to the actual expense. It's in your interests to systematize their treatment, and automate the process to the maximum, to recharge as much as you are contractually able.

Claiming expenses

Install the module `hr_expenses` to automate the management of expense claims. Users can then enter their expenses using the menu ***Human Resources > Expenses > My Expenses***.

An expense form starts in the `Draft` state. An employee enters one line for each individual expense. On a line they enter the product, the quantity, the total amount including tax, and also the analytic account of the related project for any expenses that can be recharged.

The various expenses accepted by the company must previously have been created using Open ERP's product form. You could, for example, create a product with the following parameters for the reimbursement of travel expenses by car at 0.25 per kilometer:

- ***Product***: `Car travel`,
- ***Unit of measure***: `km`,
- ***Standard Cost***: `0.25`,
- ***Sale price***: `0.30`,
- ***Type of product***: `Service`.

The employee keeps her expenses sheet in the `Draft` state while completing it throughout the period. At the end of the period (week or month) she can confirm her expense form using the ***Confirm*** button on the form. This puts it into the state `Waiting for validation`.

At the end of the period the department manager can access the list of expense forms waiting for approval using the menu ***Human resources > Expenses > All expenses > Expenses waiting for validation***.

> **ATTENTION Management of roles**
>
> You must assign the role Human Resources – Expenses to a user to enable that user to approve these expenses. You'd generally assign this role only to those people responsible for projects or departments
>
> You can also assign the role Human Resources – Invoicing Expenses to users responsible for creating invoices. These roles may overlap (so the same person who approves your accounting group's expenses may also be responsible for creating invoices).
>
> To find out more about the management of roles look at chapter 13.

The department manager can then approve the expenses, which automatically creates a supplier invoice in the employee's name so that the employee can be reimbursed. An analytic account is coded onto each line of the invoice. When the invoice is confirmed, general and analytic accounting entries are automatically generated as they would be with any other invoice.

If you establish your invoicing on the basis of service time or analytic costs, the expense will automatically be recharged to the client when the client invoice is generated for services associated with the project.

Invoicing from timesheets lets you prepare your invoices all within the one integrated system - all the expenses and timesheets for a project's client.

12

Internal organization and project management

12

Internal organization and project management

Summary

- Project Management
- The art of productivity without stress

Keywords

- project
- task
- role
- plan
- delegation
- organization
- productivity
- GTD

If you have good systems for managing tasks, then your whole company will benefit. Open ERP's project management modules enable you to manage and track tasks efficiently, work on them effectively, delegate them quickly, and track the delegated tasks closely. Open ERP also helps handle staff's personal time in the organization, and this chapter proposes a methodology aimed at improving the productivity of executives.

Project management

In the previous chapter you dealt with the financial management of projects, which was based on Open ERP's analytic accounts, structured into cases. This way of working enables you to analyze time plans and budgets, to control invoicing, and to manage your different contracts.

In this chapter you can use operational project management to organize tasks and plan the work you need to get the tasks completed. All of the necessary operations are carried out through the menu ***Project Management***

> **TERMINOLOGY Project**
>
> In Open ERP a project is represented by a set of tasks for completion. Projects have a tree structure that can be divided into phases and sub-phases. This structure is very useful for work organization
>
> Whereas analytic accounts look at the past activities of the company, project management's role is to plan the future. Even when there's a close link between the two (such as where a project has been planned and then completed through Open ERP) they are still two different concepts, each making its own contribution to a flexible workflow.

Most client projects are represented by:

- one or several analytic accounts in the accounts system for tracking the contract and its different phases,
- one or several projects in project management for tracking the project and the different tasks to be completed.

Defining a project and its tasks

To define a new project, go to the menu ***Project Management > Configuration > Projects*** and click ***New***.

If the project is divided into distinct phases you can create a sub-project for each of the phases. Then set the project parent in each sub-project. When you bring up the list of projects (***Project Management > All projects***) you'll see a hierarchical view of projects and their different phases and sub-phases.

By checking the box ***Warn manager***, you configure the system to send the project manager an Open ERP request every time that a task is closed.

The status of a project can take the following values:

- `Open`: while the project is being carried out,
- `Pending`: while the project is paused,
- `Canceled`: if the project has been canceled and therefore aborted,
- `Done`: the project has been successfully completed.

In the second tab, ***Partner Info***, you can enter information about the partner if this is a client- or supplier-related project.

If you check the box ***Warn customer***, you should define a page header and footer in that same tab for use in an email. Open ERP then prepares an email that the user can send to the client each time that a task is completed. The contents of this email are based on details of the project task, and can be modified by the user before the email is sent.

> **NOTE Study of client satisfaction**
>
> Some companies run a system where emails are automatically sent at the end of a task requesting the client to complete an online survey. This survey enables them to ask different questions about the work carried out, to gauge client satisfaction as the project progresses.
>
> This function can be used by companies certified to ISO 9001, to rate client satisfaction.

Once a project has been defined you can code in the tasks to be done. You've two possibilities for this:

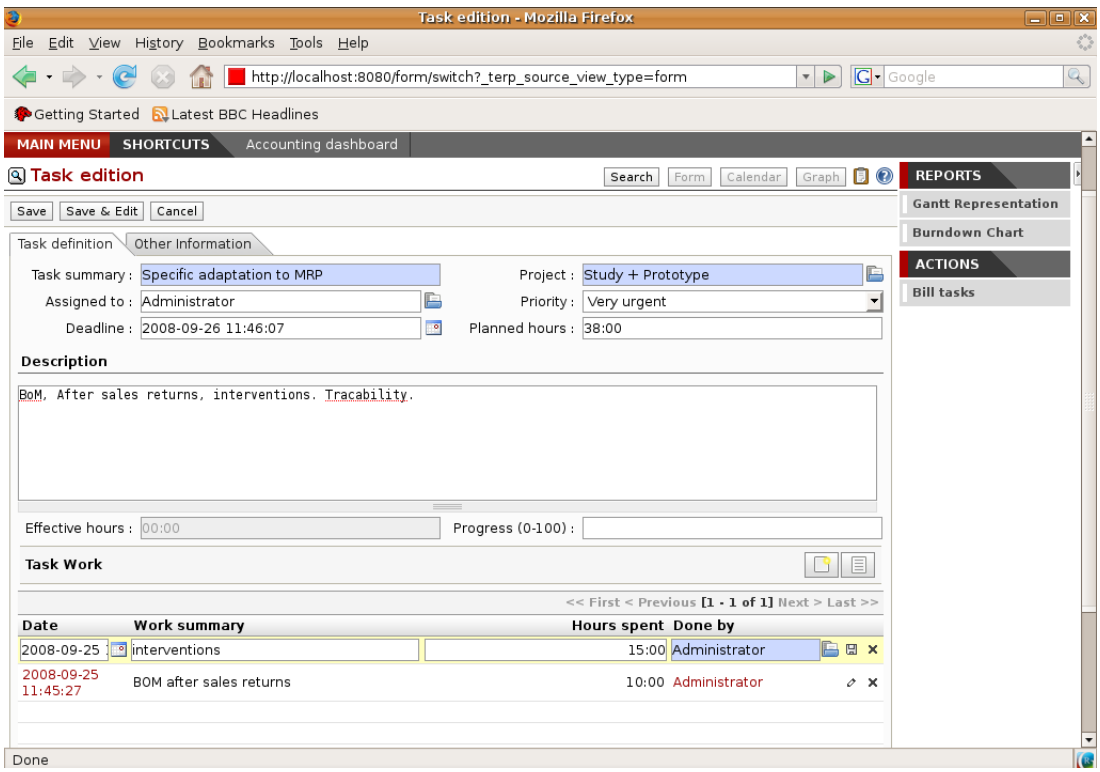
- code new tasks directly in the project form using the third tab, ***Tasks***,
- from the menu ***Project Management > All Tasks***, create a new task and assign it to an existing project.

Managing tasks

Each task contains one of the following statuses, depending on the state:

- `Draft`: the task has been entered but hasn't yet been validated by the person who will have to do it,
- `Open`: the task is being done,
- `Closed`: the task is complete,
- `Cancelled`: the task has been canceled and won't be done,
- `Pending`: the task is waiting for a document or for another task to be done.

A task can be assigned to a user, who then becomes responsible for closing it. But you could also leave it unassigned so that nobody specific will be responsible: various team members instead are made jointly responsible for taking on tasks that they have the skills for.



Tasks in project management

Each user then manages his or her own task using the different available menus. To open the list of unclosed tasks that you have been assigned specifically use the menu ***Project Management > My Tasks > My Open Tasks***. Or to open the unassigned tasks, go to ***Project Management > All Tasks > Unassigned Tasks*** and then select `Draft` and `Open` tasks from that list.

> **ADVICE Shortcuts**
>
> Every user should create a link in their own shortcuts to the My Open Tasks menu because they'll have to consult this menu several times a day.

When a user works on task he can enter his work in the ***Task Work*** field list at the bottom of the form. ***Effective hours*** are then automatically calculated from the work coded there.

> **NOTE Tasks and timesheet**
>
> The module `hr_timesheet_project` gives you a way of creating the day's timesheet automatically from the effective work done for each of the different tasks. This way you don't have to encode service times twice – once for the project task and once for the timesheet.

When you want to complete your timesheet, use the menu ***Human Resources > Timesheets > My Timesheets > Import projects***.

Assigning roles: account manager and project manager

In some companies two distinct responsibilities are defined for each important project:

- someone responsible for the client,
- someone responsible for manging the project technically.

The person responsible for the client, the client account manager, approves client requests, writes sales proposals, and assures that these activities and the invoicing progress properly. He is responsible for the functional definition of the client's needs. The account manager would have a sales, technical sales or financial profile.

The person responsible for the technical tracking of the project is called the project manager. She makes the project happen, organizing and sub-contracting the different project tasks. The project manager would often be responsible for a development team to carry the project out, and generally has a technical profile.

In Open ERP the client account manager would be responsible for maintaining the analytic accounts for the project, and should be entered into the ***Account Manager*** field on the first tab of the analytic account form. The project manager is responsible for the project and its different tasks and should therefore be entered into the ***Project manager*** field in first tab of the project form. An Analytic Account is linked to a project in the project form's second tab, ***Partner Info***.

If you don't make any such distinction in the roles then put the same person in both fields.

Invoicing tasks

Several methods of invoicing have already been reviewed:

- invoicing from a sales order,
- invoicing on the basis of analytic costs (service times, expenses),
- invoicing on the basis of deliveries,
- manual invoicing.

Yet another method exists, however: invoicing the client from tasks as they're closed.

To do this, first configure the project with a ***Pricelist*** and a product (TODO- what product?) whose details will be listed on the invoice. The different modes of invoicing in the field ***Price setting mode*** are:

To do this, first configure the project with a Pricelist whose details will be printed out on the invoice. The different modes of invoicing in the field Price setting mode are

- ***By project***: the sale price is fixed and noted on the project,
- ***By hour***: an hourly rate is established, and the invoice will be created based on the time estimated by the project manager for that task,
- ***By effective hour***: an hourly rate is established, and Open ERP uses the field ***Effective hours*** to create the invoice amount when the task is completed.

The partner to be invoiced should be specified in the project definition. But if you have a multi-client project you can code a different client in each individual task. This means that you can set up generic Support projects and invoice each task to a different client.

To automatically invoice different tasks, use the menu ***Project Management > All Tasks > Billable Tasks***. Select the task lines that you want to invoice from one of the submenus and click ***Bill tasks*** from the action menu to the right of the form to create the invoices.

To be invoiced, the task must have been marked as such. Check the box ***To be invoiced*** in the tab ***Other info*** in the task definition form.

> **NOTE Invoicing by project (TODO)**
>
> If your invoicing is based on tasks at an agreed rate for each project, you can specify tasks at the start of a project or a phase. Then for each phase in a project that is to be invoiced you create a task receipt or delivery note.
>
> When the task has been closed the account manager can automatically invoice all the projects or project phases showing on the list of tasks to invoice.

Although invoicing tasks might appear useful in certain situations, it's best to invoice from the service or purchase orders instead. These methods of invoicing are more flexible, with various pricing levels set out in the pricelist, and different products that can be invoiced. And it's helpful to limit the number of invoicing methods in your company by extending the use of an invoicing method that you already have.

If you want to connect your Sales Order with Project Management tasks you should create such products as `Consultant`, and `Senior Developer`. These products should be configured with ***Product Type*** `Service`, a ***Procurement Method*** of `Make to Order`, and a ***Supply Method*** (on the second tab, ***Procurement***) of `Produce`. Once you've set this up, Open ERP automatically creates a task in the project management when the order is approved.

You can also change some of the order parameters, which affects the invoice:

- ***Shipping Policy***: `Payment before delivery` or `Invoice automatically after delivery` (at the closure of the task),
- ***Invoice On:*** `Ordered Quantities` or `Delivered quantities` (effective hours in the task).

Planning and managing priorities

Several methods can be used for ordering tasks by their respective priorities. Open ERP orders tasks based on a function of the following fields: ***Sequence***, ***Priority*** and ***Deadline***.

Use the ***Sequence*** field on the second tab, ***Other Information***, to plan a project made up of several tasks. In the case of an IT project, for example, where development tasks are done in a given order, the first task to do will be sequence number 1, then numbers 2, 3, 4 and so on. When you first open the list of project tasks, they're listed in their sequence order.

If the project is composed of tasks with no apparent order you can leave the sequence number at its default. In this case you use the ***Priority*** field instead which can take one of the following values: ***Very low***, ***Low***, ***Medium***, ***Urgent***, ***Very Urgent***.

Finally, if the tasks have neither a sequence nor a priority, Open ERP uses the date in the ***Deadline*** field to order the tasks amongst each other.

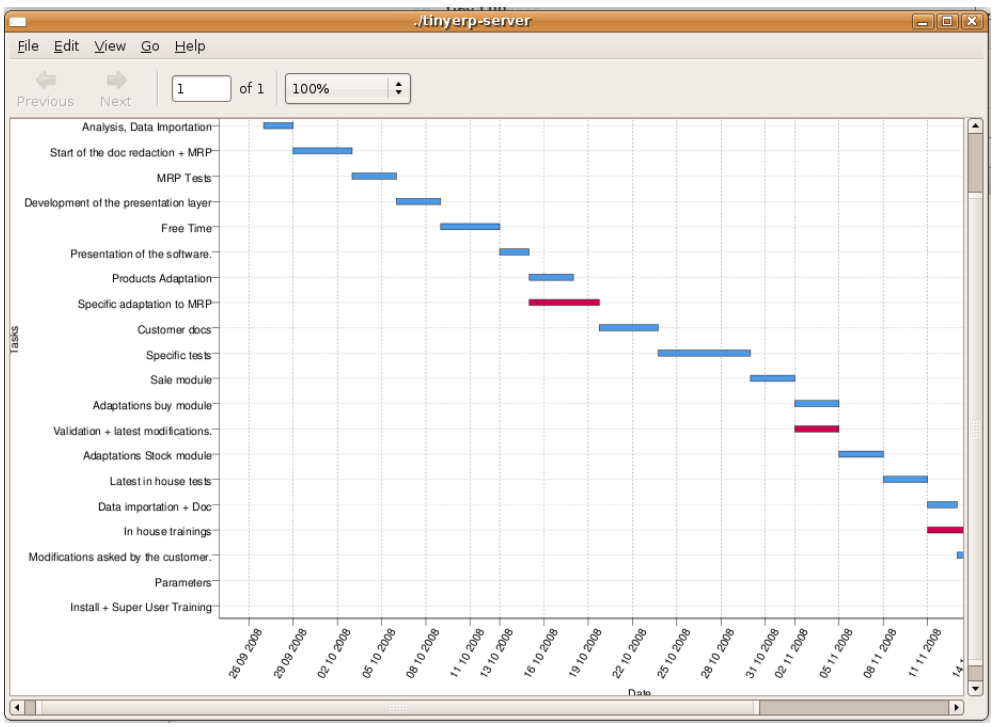
You can use one of these three ordering methods, or combine several of them, depending on the project.

A STEP FURTHER Agile methods

Open ERP implements the agile methodology ***Scrum*** for IT development projects in the `scrum` module.

Scrum completes the task system by adding the following concepts: long-term planning, sprints, iterative development, progress meetings, burndown chart, and product backlog.

Look at the site: http://controlchaos.com for more information on the Scrum methodology.



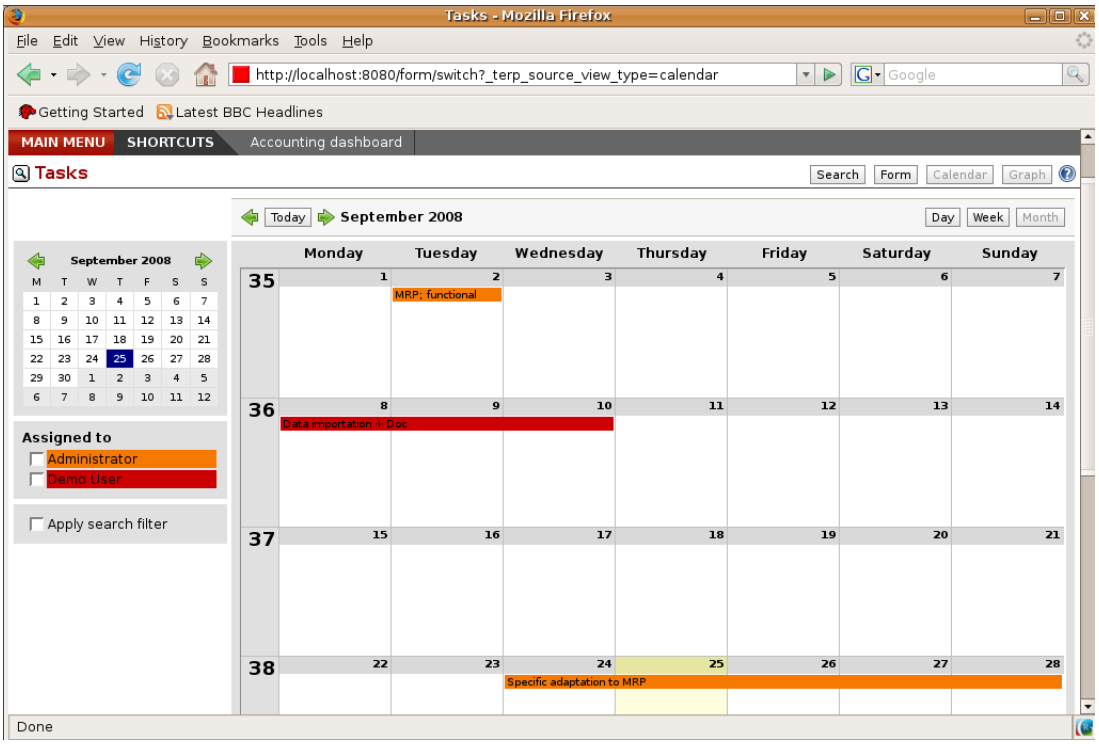
Gantt plan, calculated for earliest delivery

You can set an attendance grid (or the timesheets) in the project file. If you don't specify anything, Open ERP assumes by default that you work 8 hours a day from Monday to Sunday. Once a grid is specified you can call up a project Gantt chart using

the Print button. The system then calculates a project plan for earliest delivery using task ordering and the attendance grid.

POINT Calendar view

Open ERP's web client can give you a calendar view of the different tasks. This is all based on the deadline data and displays only tasks that have a deadline. You can then delete, create or modify tasks using simple drag and drop.

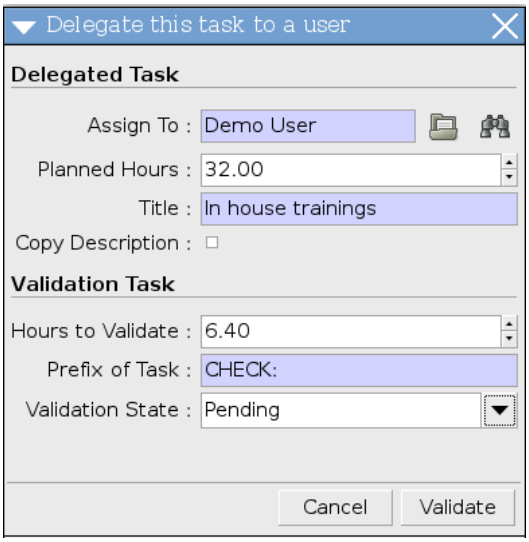


Calendar view of the system tasks

This view isn't available in Open ERP's GTK client.

Efficient delegation

To delegate a task to another user you can just change the person responsible for that task. However the system doesn't help you track tasks that you've delegated, such as monitoring of work done, if you do it this way.



Form for delegating a task to another user

Instead, you can use the button ***Delegate*** on a task from version 4.3.x of Open ERP.

Clicking ***Delegate*** creates a new task for the user you specify. Your own task moves into the `Pending` state and is modified to reflect the changed requirement to approve the work when it's been completed.

When the user who was assigned this new task closes it, your own task, which consists now of approving the work done, passes from the state `Pending` to the state `Open`. This task (of approving the work you delegated) then appears in your task list along with all the other tasks you're working on.

The system enables you to modify tasks at all levels in the chain of delegation, to add additional information. A task can therefore start as a global objective and become more detailed as it is delegated down in the hierarchy.

The second tab on the task form gives you a complete history of the chain of delegation for each task. You can find a link to the parent task there, and the different tasks that have been delegated.

The art of productivity without stress

Now take a slight detour away from pure enterprise management by looking at some tools offered by Open ERP to improve your own personal time management. It's not much of a detour because good organization is the key to better productivity in your daily work.

Open ERP's `project_gtd` module was inspired by the work of two books focusing on efficient time management:

• *Getting Things Done – The Art of Stress-Free Productivity,* by David Allen (2001), most often referred to by its initials GTD (trademark registered since 2005). This book is built around the principle that people should clearly write down all their outstanding tasks and store the details about these tasks in a trustworthy system. They then don't have to worry about holding all of this stuff in their head. Since they can be quite sure that it's recorded safely, they can allow themselves to relax and so have the energy and time to concentrate on handling the tasks themselves systematically.

REFERENCES Efficiently managing time

David Allen, *Getting Things Done*, Penguin Books, New York, 2001, 267 pages. (ISBN : 978-0142000281). Also see the site: http://davidco.com

Stephen R. Covey, *The 7 Habits of Highly Effective People*, Free Press, 1989, 15th Anniversary Edition : 2004, 384 pages. (ISBN : 978-0743269513).

NOTE De-stress yourself !

Clear the tasks that clutter your thoughts by registering them in an organized system. This immediately helps you to de-stress yourself and organize your work in the best possible way.

If you feel stressed by too much work, do the following exercise to convince yourself about the benefits. Take some sheets of blank paper and write down everything that passes through your head about the things you need to do. For each task, note the next action to do on an adjacent line, and rank it by the date that you'll commit yourself to doing it.

At the end of the exercise you'll feel better organized, considerably de-stressed and remarkably free of worries !

• *The 7 Habits of Highly Effective People*, by Stephen R. Covey (1989) : the author advises organizations on the use of these practices, and reports on the productivity improvements in the organization that result.

Our objective in this detour is not to detail the whole methodology but to describe the supporting tools provided by Open ERP's `project_gtd` module.

Not everything that is urgent is necessarily important

The first modification brought to the basic Open ERP system by the module is a separation of the concepts of urgency and importance. Tasks are no longer classified

by a single criterion but by the product of the two criteria, enabling you to prioritize matters that are both urgent and important in a single list

Many managers with a heavy workload use urgency as their sole method of prioritization. The difficulty is then in working out how to plan for substantive tasks (like medium term objectives). These aren't urgent but are nevertheless very important.

EXAMPLE Distinction between urgency and importance

If you're very well organized, urgent tasks can (and should often) be given lower precedence than important tasks. Take an example from daily life as an illustration: the case of having some time with your children.

For most people this task is important. But if you have a busy professional life, the days and weeks flow on with endless urgent tasks to be resolved. Even if you manage your time well, you could let several months pass without spending time with your children because the task of seeing them is never as urgent as your other work, despite its importance.

In Open ERP urgency is given by the ***Deadline*** of the task and importance by the ***Priority***. The classification of the tasks then results from the product of the two factors. The most important tasks and the most urgent both appear at the top of the list.

Organizing your life systematically

A methodology of organizing yourself using the concepts of context and timebox is presented in this section.

Context

The context is determined by the work environment you must be in to deal with certain tasks. For example you could define the following contexts:

- ***Office***: for tasks which have to be dealt with at your workplace (such as telephone a customer, or write a document).
- ***House***: for tasks which have to happen at your private address (such as finding a cleaning contractor, or mowing the lawn).
- ***On the move***: for tasks that you need to do on the move (such as going shopping, or going to the post office).
- ***Traveling***: for tasks that you can handle on the plane or in the train while you're doing traveling on business (tasks such as writing an article, or analyzing a new product).

An employee / system user can create his or her own contexts using the menu ***Project Management > Configuration > Time Management > Contexts***.

Timebox

You then have to define the timeboxes. You have to complete the tasks in the time interval specified by a timebox. You usually define timeboxes with the following periods:

- ***Day***: for tasks which must be handled today,
- ***Week***: for tasks that have to be dealt with this week,
- ***Month***: for tasks which have to be completed within the month,
- ***Long term***: for tasks that can be dealt with in more than one month.

A task can be put in one and only one timebox at a time.

You should distinguish between a timebox and the deadline for completing a task because the deadline is usually fixed by the requirements of the project manager. A timebox, by contrast, is selected with reference to what an individual can do.

To define timeboxes for your company, use the menu ***Project Management > Configuration > Time Management > Timeboxes > My timeboxes***.

Methodology and iterative process

To organize your tasks efficiently, Open ERP uses a method based on the following systematic and iterative process:

METHOD Iterative Process

1. Identify all the tasks that you have to deal with, including everything that keeps you awake at night, and enter them in your Inbox, which you'll find in the menu ***Project Management > Time Management > Inbox***.
2. Classify the tasks in your Inbox periodically, assigning them a context and a timebox. This indicates both when and where the task should be handled. If a task takes less than 10 minutes then maybe it could be handled immediately.
3. Every day, carry out the following process:

   • First thing in the morning, select those tasks contained in the current week's timebox that you want to deal with today. These are presented in order of importance and urgency, so you should select the tasks closest to the top of the list.

   • Carry out each task, that's to say either work on the task yourself or delegate it to another user,

   • Last thing at the end of the day's work, empty that day's timebox and return all unclosed tasks into the week's timebox.
4. Repeat the same process each week and each month for the respective timeboxes.

DON'T CONFUSE Agenda and timebox

The idea of timebox is independent from that of an agenda. Certain tasks, such as meetings, must be done on a precise date. So they can't be managed by the timebox system but by an agenda.

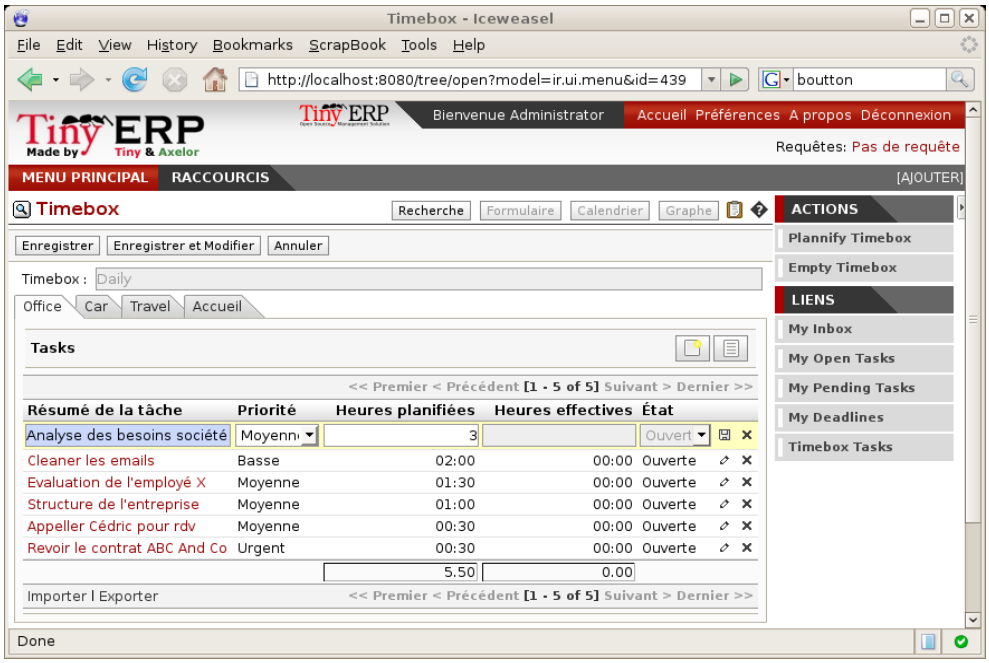
The ideal is to put the minimum of things on the agenda and to put only tasks there that have a fixed date. The timebox system is more flexible and more efficient for dealing with multiple tasks.

So start by entering all the tasks required by project management. These could have been entered by another user and assigned to you. It's important to code in all of the tasks that are buzzing around in your head, just to get them off your mind. A task could be:

- work to be done,
- a short objective, medium or long term,
- a complex project that hasn't yet been broken into tasks.

A project or an objective over several days can be summarized in a single task. You don't have to detail each operation if the actions to be done are sufficiently clear to you.

You have to empty your Inbox periodically. To do that, use the menu ***Project Management > Time Management > My Inbox***. Assign a timebox and a context to each task. This operation shouldn't take more than a few minutes because you aren't dealing with the tasks themselves, just classifying them.



Timebox for tasks to be done today

At this stage you can start the daily iterative cycle. In the morning open the timebox for the day using the menu ***Project Management > Time Management > My timebox for the day***.

Then click on the button at the top right: ***Plan the timebox***. This procedure lets you select the tasks for the day from those in the timebox for the week. This operation gives you an overview of the medium term tasks and objectives and makes you review them there at least once a day. It's then that you'd decide to allocate a part of your time that day to certain tasks based on your priorities.

Since the tasks are sorted by priority, it's sufficient to take the first from the list, up to the number of hours in your day. That'll only take a minute, because the selection isn't taken from every task you know about in the future, but just from those selected for the current week.

Once the timebox has been completed you can start your daily work on the tasks. For each task you can start work on it, delegate it, close it, or cancel it.

At the end of the day you empty the timebox using the button at the top right. All the tasks that haven't been done are sent back to the weekly timebox to sit in amongst the tasks that will be planned next morning.

Do the same each week and each month using the same principles, but just using the appropriate timeboxes for those periods.

Shortcuts to the right of the timebox help you use the system efficiently with:

- a direct link to the Inbox,

- the list of all of your open tasks,
- the list of your waiting tasks,
- your deadlines,
- a link to all of the tasks in the timebox.

Some convincing results

After a few days of carefully practicing this method, users have reported the following improvements:

- a reduction in the number of tasks and objectives that were forgotten,
- a reduction in stress because people felt more in control of their situation,
- a change of the priorities in the types of tasks carried out daily,
- more notice taken of the urgency and importance of tasks and objectives in the long-term organization of time,
- better management of task delegation and the selection of which tasks were better to delegate,
- an increase in focus on important work, rather than on less important but superficially more interesting work.

Finally, it's important to note this system is totally integrated with Open ERP's project management function. Staff can use the system or not depending on their own needs. The system is complementary to the project management function that handles team organization and company-wide planning.

Part V

System Administration and Implementation

Part V

System Administration and Implementation

After you've tested and evaluated Open ERP, you'll need to configure it to match the software to your company's needs. Its flexibility enables you to configure the different modules, adapting them to your industry or sector of activity.

Designed for ERP project managers, this section deals with the administration and configuration of the system, giving you powerful tools for integrating the software in a company and driving and tracking the project, taking account of different problems, a range of supplier types, implementation risks, and the options available to you.

13

Personalizing and Administering Open ERP

13

Personalizing and Administering Open ERP

Summary

- Creating a configuration module
- Reorganizing the menu
- Changing passwords
- Personalizing the welcome page
- Defining the default behaviors
- Configuring the language and adapting the terminology
- Managing access rights
- Configuring the workflows
- Designing statistical reports
- Importing your data

Keywords

- administration
- rights management
- OpenOffice.org
- Report Designer
- statistics
- workflow

This chapter is for the administrators of an Open ERP system. You'll learn to configure and personalize Open ERP to match it to your company's needs and those of each individual user of the system.

Open ERP gives you great flexibility in the ways of configuring and using it, which let you modify its appearance, the general way it functions and the different analysis tools chosen to match your company's needs most closely. These configuration changes are carried out through the user interface.

Users can each arrange their own welcome page and their own menu, and you can also personalize Open ERP by assigning each user their own dashboard on their welcome page to provide them with the most up to date information. Then they can immediately see the information most relevant to them each time they sign in.

And Open ERP's main menu can be entirely reorganized. The management of access rights lets you assign certain functions to specific system users. You can also assign roles, which define the part that each system user plays in the workflows that move system documents from state to state (such as the ability to approve employee expense requests).

> **Definition Personalization**
>
> The word personalization is used in this book where you might expect to find customization. That's because customization refers to something that requires quite a bit of technical effort (such as creating specialized code modules) and creates a non-standard system.
>
> The word configuration is more closely related – it's the general process of setting all the parameters of the software to fit the needs of your system. Personalization is just that subset of configuration options that shapes the system to the operational needs of a certain company.

Using the module ***OpenOffice.org Report Designer*** you can change any part of any of the reports produced by the system. The system administrator can configure each report to modify its layout and style, or even the data that's provided there.

> **Advantage The OpenOffice.org Report Editor**
>
> The OpenOffice.org plug-in enables you not only to configure the reports of the basic products in Open ERP but also to create new report templates. When the user prints these reports through Open ERP's client interface, OpenOffice.org opens with the report containing all the selected data.
>
> You can also easily create fax documents, quotations, or any other commercial document. This functionality enables you to considerably extend the productivity of your salespeople who have to send many proposals to customers.

Finally, you'll see how to import your data into Open ERP automatically, to migrate all of your data in one single go.

Creating a Configuration Module

It's very helpful to be able to backup your specific configuration settings in an Open ERP module dedicated just to that. That enables you to:

- automatically duplicate the configuration settings by installing the module in another database,
- reinstall a clean database with your own configuration in case you have problems with the initial configuration,
- publish your specific configuration to benefit other companies in the same industrial sector,
- simplify migrations, if you have modified some elements of the basic configuration, there's a risk in returning them to their original state after the migration, unless you've saved the modifications in a module.

Start by installing the module `base_module_record` in the usual way. Then start recording your actions using the menu ***Administration > Modules Management > Modules Recording > Start Recording***. Manually make all your configuration changes through the user interface as you would normally (such as menu management, dashboard assignments, screen personalization, new reports, and access rights management – details of some of these possibilities are described later in this chapter).

Once you've done all this, go to the menu ***Administration > Modules Management > Modules Recording > Save Recorded Module***.

A STEP FURTHER Contributing to the development of Open ERP

Once your personal configuration has been saved into a module, install the module `base_module_publish`. This gives you a new possible action ***Publish Module*** in the menu ***Administration > Modules Manage > Modules***.

Use this function to publish your module on the official Open ERP site. It could then be reused by other companies that have the same needs as yours. You could then yourselves benefit from improvements made by these same companies in future.

Don't forget to create a user account beforehand on http://openerp.com.

Open ERP then creates a ZIP file for you containing all of the modifications you made while you were carrying out your configuration work. You could reinstall this module on other databases and/or publish it online to help other companies. This could turn out to be useful if you want to install a test server for your company's users and give them the same configuration as the production server.

To install a new module saved in ZIP file form, use the menu ***Administration > Modules Management > Import a new module***.

Personalizing the menu

Open ERP's menu organization isn't subject to any restriction, so you can modify the whole structure, the terminology and all access rights to it to meet your specific needs in the best possible way. However, before you do all that and just as you would for any other customizable software, you should balance both the benefits you see in such changes and the costs, such as the need to train users, to maintain new documentation and to continue the alterations through subsequent versions of the software.

This section describes how to proceed to change the structure of the menu and the welcome page, to personalize the terminology of the menus and forms in the user interface and for managing users' access rights to the menus and the various underlying business objects.

Letting users change their password themselves

When you signed onto the `openerp_ch02` database as the administrator, two menus gave you access to forms for changing your password:

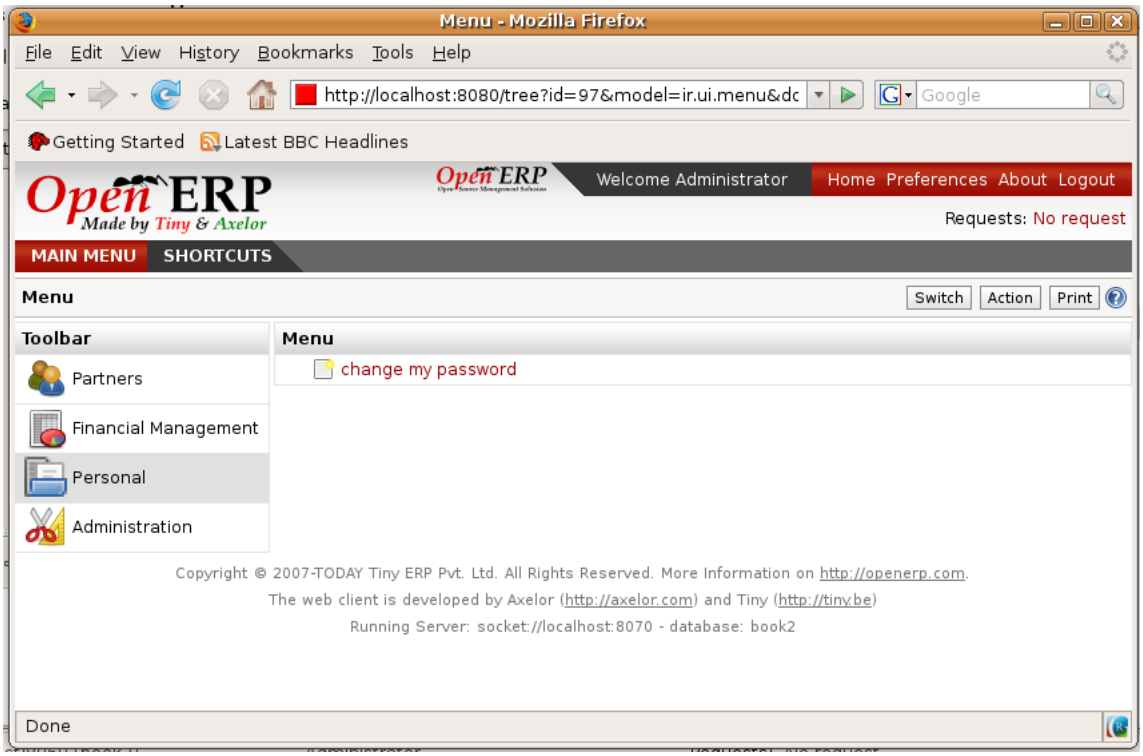
- ***Administration > Users > Users*** gives a list of all users: click on your own name in that list and a form appears containing a field that with your password (don't click the ***Edit*** button above the form for the moment, and don't click the ***Edit*** icon to the right of the list of users either)
- ***Administration > Users > Users > Change My Password*** shows another list, this time with only you in that list: click on your own name and you'll see a form where only the password and signature can be edited (again, don't edit this at the moment).

These two paints mentioned above are found in the ***Administration*** branch of your menu, which is only visible to users who are members of the `admin` group (login again as `demo` if you want to check this). You can easily make a menu item accessible to everyone by moving it or duplicating it, so you can make the ***Change My Password*** menu accessible to everybody.

To do this, select the menu item ***Administration > Users > Users > Change My Password***. Then click on the line containing the word Administrator (but not on the name `Administrator` itself) and click the ***Switch*** button to bring up the menu item as an editable form (you can do the same using the GTK client – there you select the line and click the ***View*** button instead).

You could now edit this form – change its ***Parent Menu***, which moves the entry to a different part of the menu system; edit its ***Menu*** name to change how it appears in the menu tree, or give it a new ***Icon***. Or you could give it a new ***Action*** entirely (but this would lose the point of this particular exercise).

Instead of editing this form, which is the original menu entry, duplicate it instead. With the web client you must first make the form read-only by clicking the ***Cancel*** button, then you click the ***Duplicate*** button that appears (in the GTK client, click ***Form > Duplicate*** from the top menu). The form that remains is now the duplicate entry, not the original.



Menu enabling you to change your own password, accessible to all users

To move this duplicate entry, change the ***Parent Menu*** field by deleting what's there and replacing it with another menu that everyone can see, such as ***Tools*** or ***Human Resources***, and make sure that the entry moves to the end of the menu list by replacing the ***Sequence*** with `99`. You can experiment with icons if you like. Save the form and then click ***Main Menu*** to see the results.

ADVICE Duplicating the menu

You should duplicate a menu before modifying it. In this way you'll always keep a link to the original menu that works if you need it to.

ATTENTION Managing Passwords

If you let users change their passwords for themselves you'll have no direct control over the password they choose. You should have a written policy about password strength to try to maintain a level of security in your system.

NOTE Managing users through LDAP

With the `user_ldap` module, user accounts can be managed through an LDAP directory common to various different company resources.

Connection parameters for the LDAP directory are then registered with the company definition. You can provide a user profile template there from which new users are automatically created during their first connection to Open ERP.

DEFINITION LDAP

The LDAP protocol (Lightweight Directory Access Protocol) enables you to manage common directories for various different resources through your standard TCP/IP network.

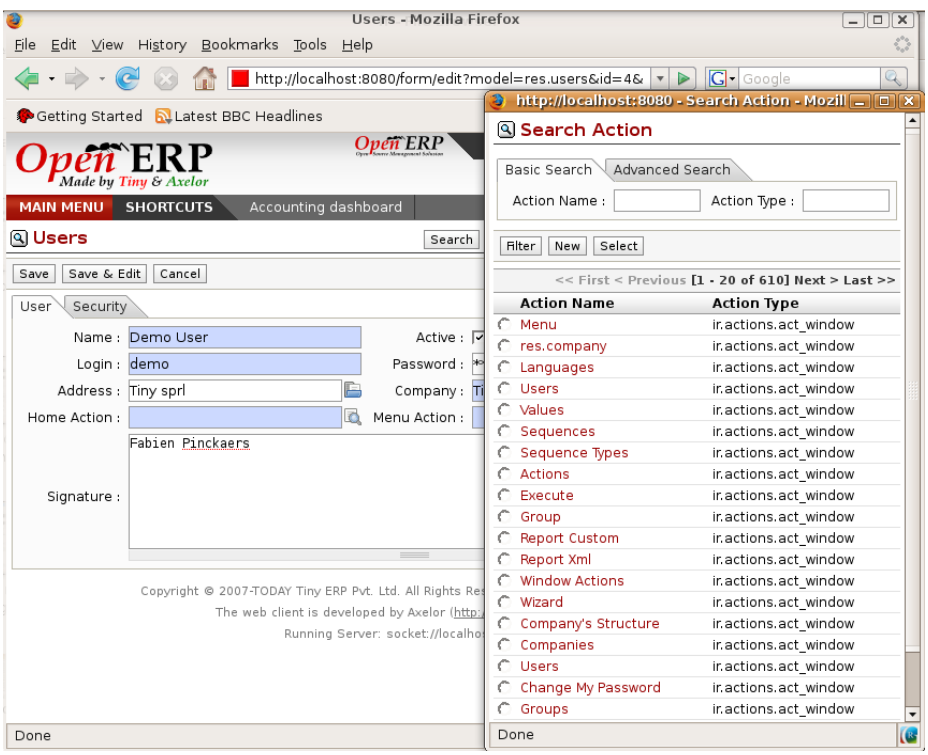
This enables users in the company to have the same username and password to access all their applications (such as email and their intranet).

Personalizing the welcome page for each user

When you sign into Open ERP for the first time, a welcome page appears. In a minimal system, such as that created in the original `openerp_ch02` database before it was expanded in that chapter, and in the `openerp_ch03` database, you only get the main menu – the same as you get by default when you click the ***Main Menu*** button. As you add functionality to your database you get more choices for the welcome page, with different dashboards automatically assigned to various company roles as they're created in the demonstration data.

The administrator can change both the welcome page and the main menu page individually for each user of the system, and can adapt Open ERP to each role in the company to best fit the needs of everyone.

To make modifications for a particular user, edit the user configuration again in ***Administration > Users > Users***. Open the form for a particular user, and select different menu entries for the two fields ***Home Action*** and ***Menu Action***.



Selecting a new welcome page

The ***Home Action*** is the menu item that is automatically opened when you first sign on, and is also reached when you click the ***Home*** link in the top right toolbar of the web client. There you can choose any page that you'd reach through any menu – one of the dashboards could be most useful. The ***Menu Action*** is the one you reach through the ***Main Menu*** button in the web client (the ***Menu*** button in the GTK client). You can choose the main menu and the dashboards there.

> **ATTENTION Actions on the administrator's menu**
>
> It's very easy to change the welcome page and the menu of the different users. However, you shouldn't change the main administrator's menu because you could make certain menus completely inaccessible by mistake.

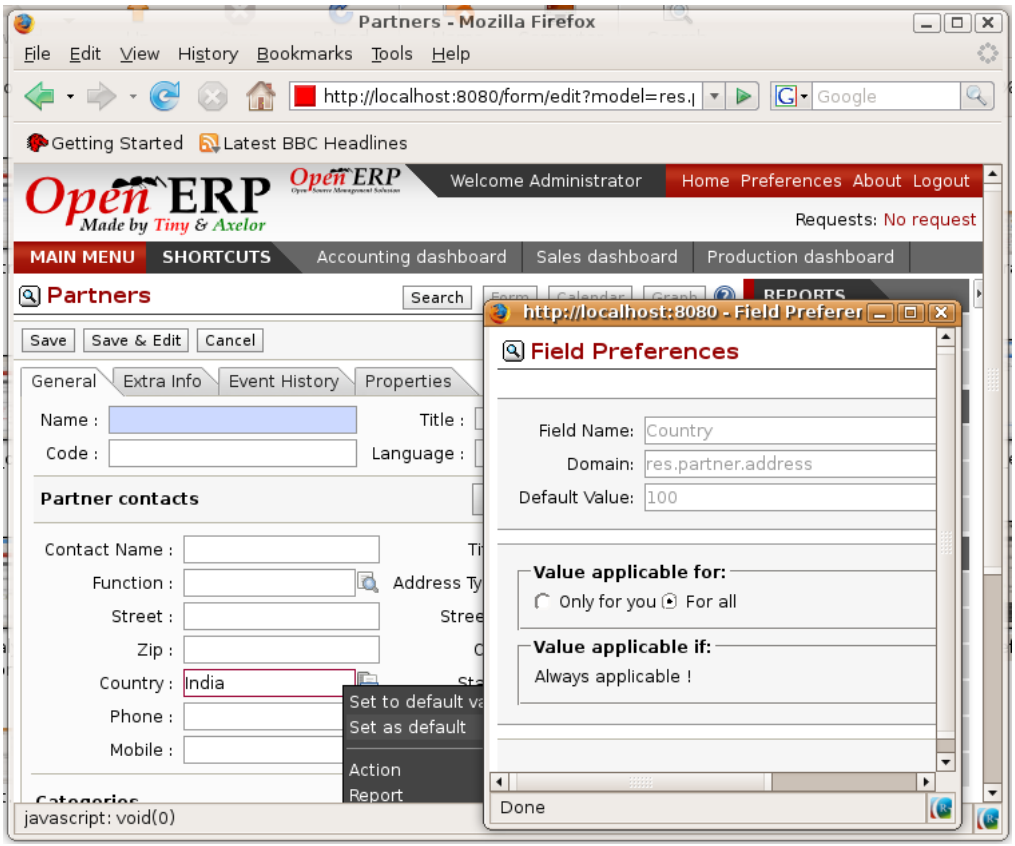
Assigning default values to fields

You can quite easily configure the system to put default values in various fields as you open new forms. This enables you to pre-complete the fields with default data to simplify your users' work in entering new documents.

To do this, open a form window of your choice – for example, open a new partners form by clicking the ***New*** button after clicking the ***Partners > Partners*** menu. Enter a country – say `New Zealand` – in the ***Country*** field of the ***Partner Contact***.

- If you're using the web client do a Ctrl-Right-Click (that's a mouse right-click while the mouse pointer is in the field and the Control key is held down on the keyboard).
- If you're using the GTK client, you just need to right-click the mouse while the pointer is in the field.

Then choose ***Set as default***. A ***Field Preferences*** dialog box appears where you can select the radio button ***Value applicable for***: and choose `For all` (or `Only for you` if you need that instead).



Inserting a new default value

To check this new configuration, open a new partner form: the field ***Country*** should now contain the entry `New Zealand`.

This is a very powerful feature! An administrator can use this functionality to redefine the behavior of your whole system. You can test that in database `openerp_ch13` by opening up a new ***Purchase Order*** form, clicking the second tab, ***Purchase Shipping***s, selecting `From Picking` in the ***Invoicing Control*** field and then making that the default. From that moment on, you'd automatically create draft purchase invoices only when goods are received, so you could very easily restrict your accountants from paying any invoices that turn up until you were sure you had received the goods. It wouldn't stop anyone from selecting another method of invoice control, but they'd start with the default definition.

Changing the terminology

You can use Open ERP's language translation functionality to substitute its standard terminology with terminology that fits your company better. It's quite straightforward to adapt the software with different terms specific to your industry. Moreover, this can strengthen acceptance of your new Open ERP system, because everybody will be able to retain their usual vocabulary.

You can do this one of two ways:

- translate them in a CSV file, which gives you a global overview of all of the system terms so that you can search and replace specific occurrences everywhere,
- translate the phrases directly in the client, which means that you can change them in their context, and that can be helpful to you while you're translating.

DEFINITION CSV

CSV (Comma-Separated Values) is an open text file format, representing tabular data where values are separated by commas. These files use a file extension of `.csv`, and the format is a very common one for exporting data from one software system to another.

Each line of the file corresponds to a record in the table, and the cells of each row are separated by the commas. For example, the following file:

```
LastName,                  FirstName,                  Company
Robins,             Gerald,             SOS             Plumbers
Lacoste,                   John,                  Extra-Textiles
Schumacher, Helen, Cook Chain
```

represents the table:

LastName	FirstName	Company
Robins	Gerald	SOS Plumbers
Lacoste	John	Extra-Textiles
Schumacher	Helen	Cook Chain

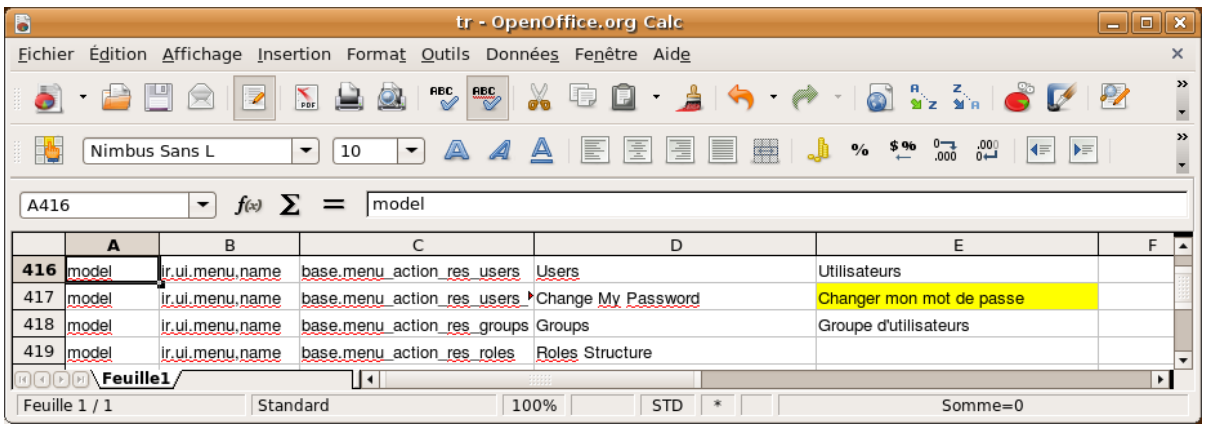
The same approach is used to translate terms that haven't been created yet. This can be useful, for example, with modules that haven't yet been translated into English or any other language that you want.

Translation through a CSV file

To translate or modify all of the system's phrases you first have to export a translation file in CSV form.

Click on ***Administration > Translation > Export language*** to open the export form and download the translation file. You can select a translated language there (***Français*** for example), or just ***New Language***. Open ERP then creates a CSV file which you have to save on your computer (ensuring you add a `.csv` extension to the filename you choose), then open in OpenOffice.org Calc or Microsoft Excel.

> **ATTENTION UTF-8 format**
>
> The CSV file is encoded in the UTF-8 format. Make sure that you retain this format when you open the file in a spreadsheet program because if you don't you risk seeing strange character strings in place of accented characters.



CSV translation file with the translation superimposed

The file contains five columns: ***type***, ***name***, ***res_id***, ***src***, and ***value***. You have to ensure that the first line, which specifies these column names, remains untouched. The ***src*** field contains the base text in English, and the ***value*** field contains a translation into another conventional language or into a specialist technical phrase. If there's nothing at all in the ***value*** field then the English translation will automatically be used on the the form you see.

> **NOTE When should you modify the text?**
>
> Most of the time, you will find the text that you want to modify in several lines of the CSV file. Which line should you modify? Refer to the two columns ***type*** (column A) and ***name*** (column B). Some line have the ***name*** `ir.ui.menu` which shows that this is a menu entry. Others have a ***type*** of `selection`, which indicates you that you'd see this entry in a drop-down menu.

You should then load the new file into your Open ERP system using the menu ***Administration > Translation > Import language***. You've then got two ways forward:

- you can overwrite the previous translation by using the same name as before (so you could have a special 'standard French' translation by reusing the ***Name*** `Français` and ***Code*** `fr_FR`),

- you could create a new translation file which users can select in their ***Preferences***.

If you're not connected to the translated language, click ***Preferences***, select the language in ***Language*** and finally click ***OK*** to load the new language with its new terminology.

> **NOTE Partial translations**
>
> You can load only some of the lines in a translation file by deleting most of the lines in the file and then loading back only the changed ones. Open ERP then changes only the uploaded lines and leaves the original ones alone.

Changes through the client interface

To modify the terminology used in Open ERP you need to start with a translation file loaded in the system, such as the ***New Language*** described above.

Then you should open the form that you want to translate.

Through the web client, click on the ***Translate this resource*** button to the top right of the form, and directly to the right of the ***Search*** button but only visible when the form is in read-only mode, not editable. All of the terms that can be translated are displayed:

- the data in the system (contained in the ***Fields***),
- the field titles (the ***Labels***),
- all of the ***Action*** buttons to the right of the form,
- the terms used in the form ***View***.

You can modify any of these.

The procedure is slightly different using the GTK client. In this you just right-click with the mouse on a label or button. You can choose to translate the item itself or the whole view.

This method is simple and quick when you only have a few entries to modify, but it can become tiresome and you can lose a lot of time if you've got to change some terms across the whole system.

In that case it would be better to use the translation method that employs a CSV file.

> **GTK CLIENT Tacking account of translations**
>
> In the GTK client the modified terms aren't updated immediately. To see the effects of the modifications you must close the current window and then reopen the form.

Managing access rights

One of the most important areas in configuring Open ERP is how to manage access rights to the information in it.

You're planning to put everything significant to your business into the system, but most of your staff need see only part of it, and may need to change even less of it. Who should have rights to what, and how do you manage that?

Tiny ERP's approach to rights management is highly flexible. Each user can belong to one or more groups, and the group(s) you belong to determine(s):

- the visibility of each menu item and
- the accessibility of each table in the database.

For example, the group `Stock` may only be given access to some of the menus in ***Inventory Control***, and may have no access to any of the accounting information. Each system user who works in Stores is given membership of the ***Stock*** group. If some users also work elsewhere, they'd also be given membership of other groups.

Open ERP users can also belong to various roles. Just as group gives a user access rights, each role determines the user's duties. This is managed at the level of workflows, which form the company's business processes.

Groups and Users

To configure access rights you must start by defining the groups. It's important for the groups to be representative of your company's job functions rather than of its individual employees.

So if your finance director is also your sales director, you should create both a Finance Director group and a Sales Director group, even though they're both the same person, and would both be assigned to this user in practice. This gives you flexibility for the future.

You should also create groups within a departmental areas that have different levels of access rights. For example, if you create a `Sales Director` group and a `Sales` group avoid assigning exactly the same rights to each group. The first could see all the of reports, while the second could be restricted to seeing quotations. You could either make the Sales Director a member of both groups, and give the `Sales Director` group a limited set of extra rights, or give the `Sales Director` group all the rights it needs for a Sales Director to belong only to this one group. You should choose the scheme that gives you most flexibility and then stick with it to maintain consistency.

> **ADVICE Flexibility in managing access**
>
> To give yourself flexibility, you can ensure that a trusted staff member (perhaps a director or someone in accounts, or even the system administrator) is given wide rights to use the system, and is authorized by the management to carry out specific tasks for people.

Access rights for menus

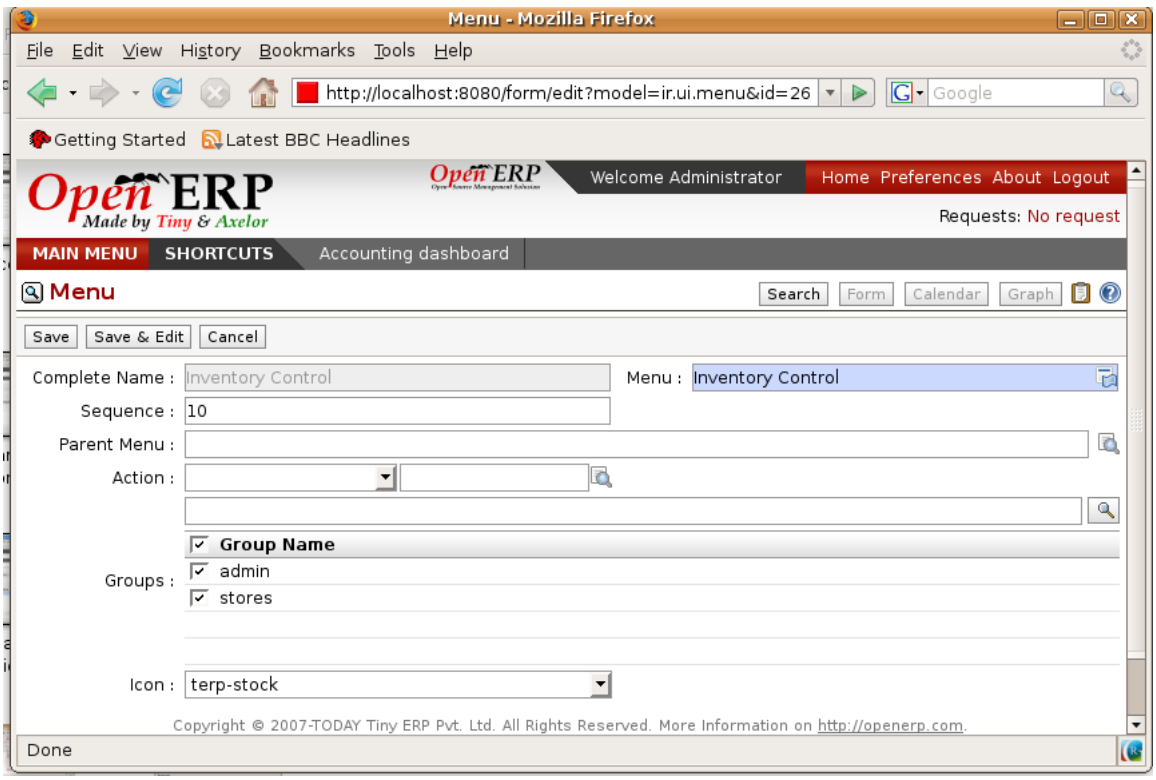
To get a feel for rights management in Tiny ERP you'll create a new `Stock1` group, with access to the ***Inventory Control*** menu items. You'll then create a stores person user who's a member of the `Stock1` group.

To create a new group, use the menu ***Administration > Users > Groups***. Enter the group name `Stock1`.

Then to create a new user linked to this, use ***Administration > Users > Users*** to enter the following:

- ***Name***: `Stores Person`,
- ***Username***: `stores`,
- ***Password***: `stores`,
- ***Company***: `<your company>`,
- ***Action***: `Menu`,
- ***Menu Action***: `Menu`.

In the second tab of the user form, ***Security***, add the `Stock1` group that you just created.



Groups that have access to the Inventory Control menu

Save the user, then go into the menu ***Administration > Security > Define Access to Menu-Items*** to get a list of menus. Filter this list using the search field ***Menu*** to get the ***Inventory Control*** menu item. In the form describing the menu, add `Stock1` into the ***Groups*** field. While you're at it, also add the `admin` group there. From now on, only members of the `Stock1` group and the `admin` group will be able to see this menu item in their main menu list.

INFO Menu hierarchy

Since menus are hierarchical there is no need to hide access to lower menus: once you've configured Inventory Control this way, all lower-level menus become inaccessible to members of other groups.

IMPORTANT Security

This method of managing access to menus doesn't guarantee that users are prevented from reaching hidden business objects in the system in other ways. For example, hiding the ***Invoices*** menu won't prevent people reaching invoices through purchase and sales orders, or by guessing the URL.

For effective security management you must use the the methods for managing access rights to objects presented in the following section.

FURTHER INFORMATION Initial access configuration

In the initial configuration, Open ERP's `admin` user, a member of the `admin` group, is given access to the ***Configuration*** menu in each section of the main menu. For example, ***Partners > Configuration*** is visible in the administrator's menu amongst other Partner menu items, but only the other menu entries are visible to other users. Similarly, the main menu entry ***Administration*** is visible only to users who are members of the `admin` group.

Access Rights to Objects

The menu access rights determine who can access which menu, but doesn't define what you can do once you're in the menu.

Access controls on the objects give you the possibility of defining what your users have the right to do with your data when they get access to it. Access control of objects is structured the same way as access to menus.

DEFINITION Object

An object represents a document in the system. Objects are linked to database tables and also have additional concepts, such as the functions of fields, inheritance from other objects, and class methods that give them behavior.

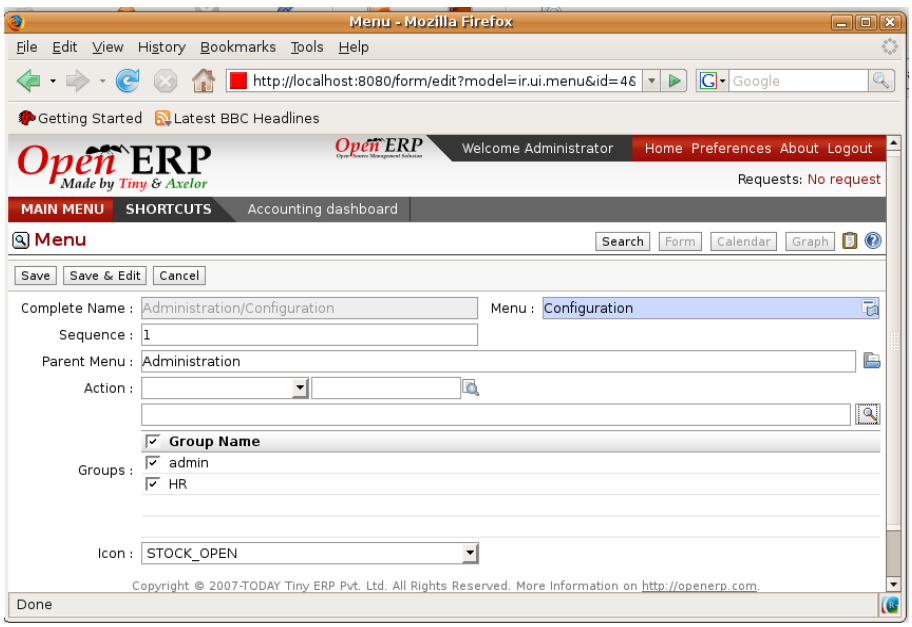
If no group is assigned to an object, all users can access it without any restriction of any sort. Conversely, when an access control is defined for an object, a user must be a member of a group owning appropriate access rights to have any sort of access to that object.

You must always ensure that you don't lock the `admin` group out of any objects that control administration and configuration options, such as the `ir.model.access` model.

You can manage four access modes on objects independently:

- ***Read access***: members of the group can read the data in the object,
- ***Create access***: members of the group can create a new record in the object,

- ***Write access***: members of the group can modify the contents of records in the object,
- ***Delete access***: members of the group can delete records from the object.



Access control to invoices for the `admin` group

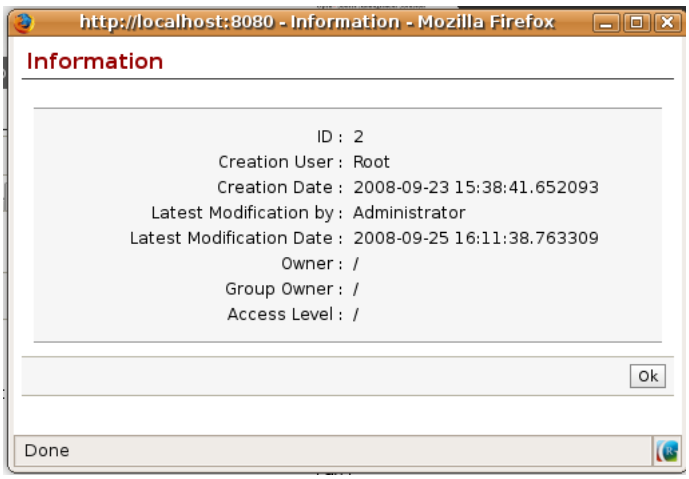
To configure access rights on a Open ERP objects, use the menu ***Administration > Security > Access Controls***. You give a ***Name*** to the access control, select a ***Group***, and the object (***Model***), then check the checkbox corresponding to each of the four ***Access*** modes.

If you don't specify any group in the access rules, the rule is applied to all groups. So to remove access to an object for all users you could create a rule:

- which is defined for a specific object,
- which is linked to no group,
- for which none of the four access options is checked.

You can then create additional rules on the same object to give specific rights to certain groups.

Modification history

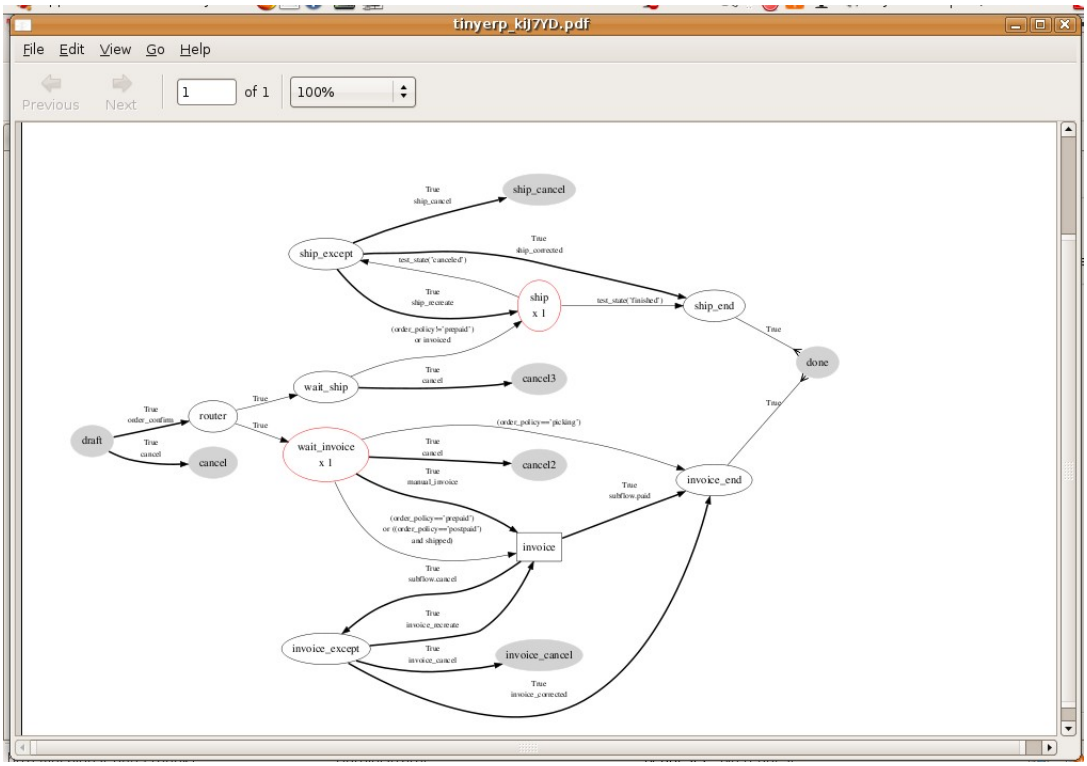


Parter Record history

Each record in a Tiny ERP database carries a note of its history. You can then find out who it was created by and when that occurred, and who last modified it and when that occurred. Click the ***View Log*** icon at the top right of any form in the web client (but only when it's read-only, not when it's editable) to display a dialog box showing this information, as shown in the figure below. It can help you identify who to contact if there are any problems with the data in the records.

Configuring workflows

Workflows represent the company's different business processes. They're completely configurable and define the path that any Open ERP object (such as an order) must follow depending on the conditions (for example an order over a certain value must be approved by a sales director, otherwise by any sales person, before the delivery can be triggered).

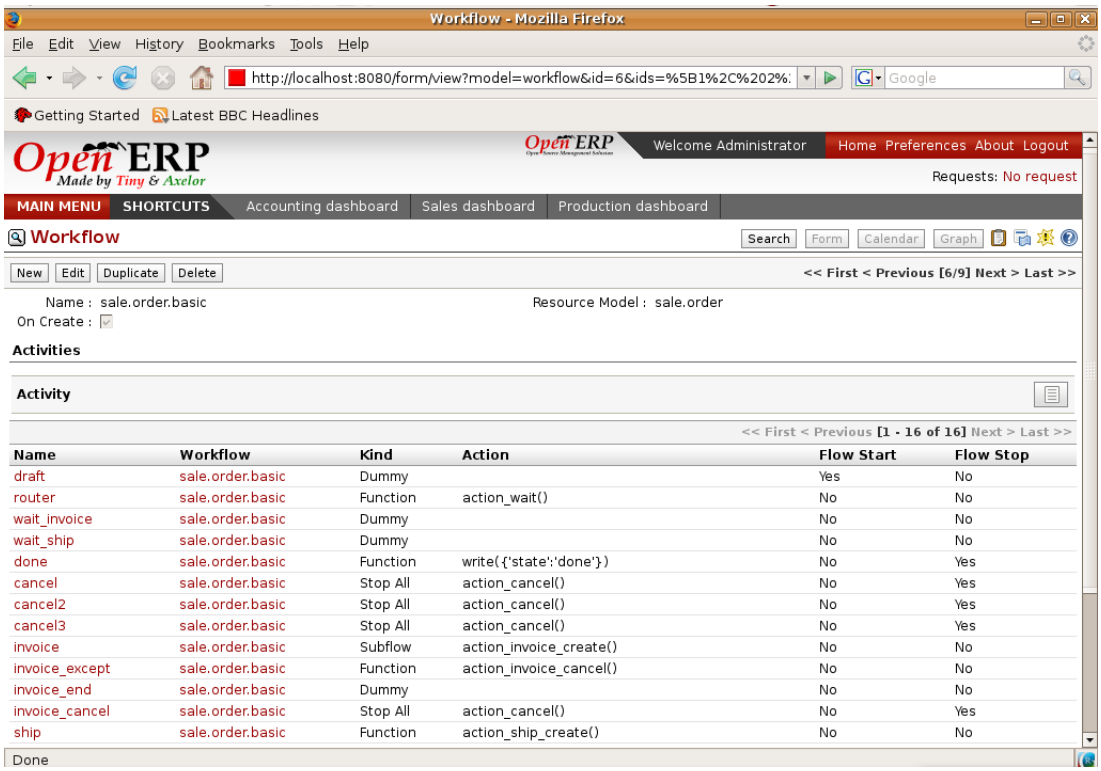


Workflow for order SO005

The figure below shows the standard workflow for an order. You can show it from the GTK client starting with ***Sales Management > Sales Order > All Sales Order***. Select an order, then go to the top menu ***Plugins > Execute a plugin > Print Workflow*** to show the menu below. They're designed really for administrators, so aren't available through the web client.

Defining workflows

Workflows can be created and modified in Open ERP's user interface.


Workflow - Mozilla Firefox
File Edit View History Bookmarks Tools Help
http://localhost:8080/form/view?model=workflow&id=6&ids=%5B1%2C%202%:
Getting Started Latest BBC Headlines
Open ERP
Made by Tiny & Axelor
Welcome Administrator Home Preferences About Logout
Requests: No request
MAIN MENU SHORTCUTS Accounting dashboard Sales dashboard Production dashboard
Workflow
Search Form Calendar Graph
New Edit Duplicate Delete
<< First < Previous [6/9] Next > Last >>
Name : sale.order.basic
Resource Model : sale.order
On Create :
Activities
Activity
<< First < Previous [1 - 16 of 16] Next > Last >>
Name Workflow Kind Action Flow Start Flow Stop
draft sale.order.basic Dummy Yes No
router sale.order.basic Function action_wait() No No
wait_invoice sale.order.basic Dummy No No
wait_ship sale.order.basic Dummy No No
done sale.order.basic Function write({'state':'done'}) No Yes
cancel sale.order.basic Stop All action_cancel() No Yes
cancel2 sale.order.basic Stop All action_cancel() No Yes
cancel3 sale.order.basic Stop All action_cancel() No Yes
invoice sale.order.basic Subflow action_invoice_create() No No
invoice_except sale.order.basic Function action_invoice_cancel() No No
invoice_end sale.order.basic Dummy No No
invoice_cancel sale.order.basic Stop All action_cancel() No Yes
ship sale.order.basic Function action_ship_create() No No
Done

Definition of the workflow for a sales order

You can look at the specifications of the workflow for the sales order above using the menu Administration ***> Configuration > Low level > Base > Workflow***. It's the process named sale.order.basic. All of the nodes appearing in the graph are listed in the field ***Activities***, and all of the arrows are listed in the field ***Transitions***.

You can also configure the workflows by adding new activities and transitions between activities or by modifying the conditions that control the existing transitions.

> **Technique Defining workflows**
>
> Workflows are defined in files named `MODULE_workflow.xml` which can be found in the `addons` directory on the server. The definition just consists of a list of activities (nodes) and transitions (arrows).

Assigning roles

Users can be linked to several roles specifying their duties in certain phases of different workflows accompanying the various documents. For example, if a user has taken the role of services manager he takes on the task of approving holiday requests from his staff. So his role will be integrated in the holiday request workflow.

Role definition is done in ***Administration > Users > Roles Structure > Define Roles***, the same way you define groups, except that roles can be hierarchical: a parent role has the

same influence as all of its child roles (for example, the sales director would be able to do all of the things that have been defined for a sales person, as well as anything defined specifically for the sales director group, if the sales director has been made a parent of the sales group).

Once the roles have been defined, you can add them into the workflow transitions using the Role field. This means that users who have the required role can make the transitions in the workflow, which enable them to pass from one activity to another (for example confirming an order or an invoice).

Configuring reports

Open ERP has two distinct report types:

- Statistical reports: these are calculated data, often represented in the form of lists or graphs. These reports are dynamics and you can navigate through the data that comprise the figures through the client interface.
- Report documents: they're used to print system documents. The result is usually a PDF generated by a selection made on the screen. Furthermore, Open ERP enables you to open these reports in OpenOffice.org to edit in any changes you want before sending them to your customer.

Because of the power of the Open ERP engine, these two types of report can be created or modified without needing any development and this can be done directly in the client interface of Open ERP or from OpenOffice.org.

Managing statistical reports

Many reports are configured in advance in Open ERP. You can find them in the ***Reporting*** submenus under each main menu entry.

You can also install more new reports using various different modules whose name usually starts with ***report_***.

Modeling a new report

Open ERP gives you the possibility of developing your own analyses to meet your specific needs. To define a new analysis of the system's data you should install the module `base_report_creator`. This enables you to create complex queries on the database, in a simple and visual way.

Once the module is installed, create a new report using the menu ***Dashboards > Configuration > Custom Reports***.

Give a ***Report Name*** to your new report and select the objects that you're going to analyze. For example, select the three following objects: ***Partner***, ***Sale Order***, ***Sale Order line***.

Then turn to the second tab, ***View parameters***, to select the views that you want in your report. Select `Tree` in the ***First View*** and `Graph` in the ***Second View***. You can choose the type of graph displayed using the ***Graph View*** fields. You could also select `Calendar` as a view if you were going to add the ***Date*** field in your report.

ADVANTAGE The MS Excel plug-in

The Microsoft Excel plug-in enables you to connect to Open ERP and automatically extract the selected data. You can then apply formulas and graphs to make your own dashboards of measures directly in Excel. The `.xls` file can be saved and, when it is reopened, it reconnects to Open ERP to refresh the different lists and graphs with live data.

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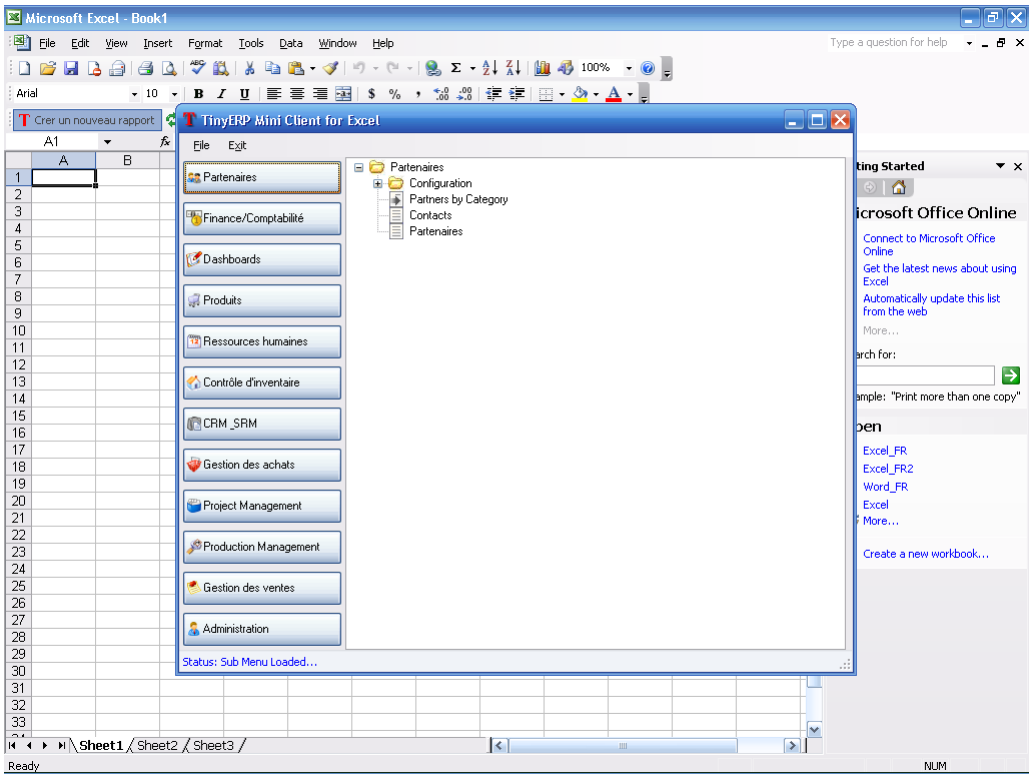
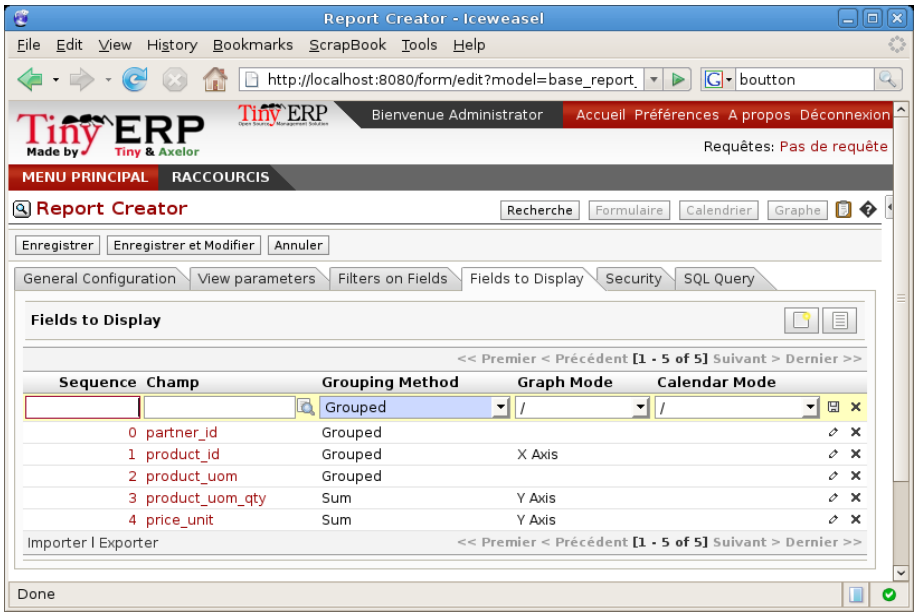


Selection of Open ERP objects from Microsoft Excel



Fields selected for the analysis of sales by customer and by product

In the third tab, ***Fields to Display***, you can add filters on all the fields of the selected objects (***Filters on Fields***). To do that, use the button ***Add Filter*** at the top of the form. For the moment, don't add a filter.

In the fourth tab you must indicate which of the fields in the list you want to be shown in your report (***Fields to Display***). Complete the screen along the lines of the figure below.

1 The ***Sequence*** field gives the order of the fields displayed.

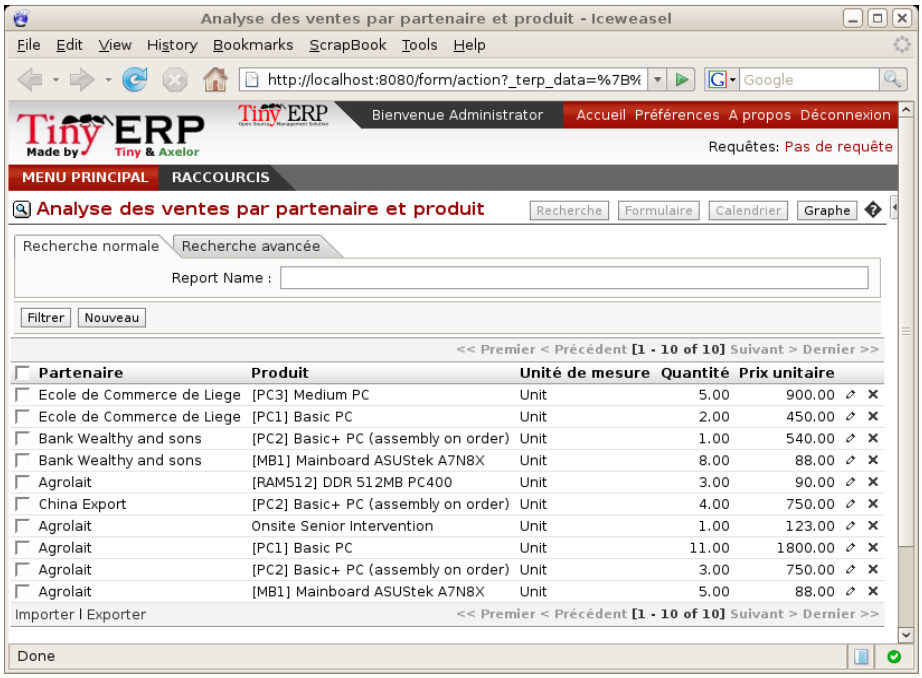
2 ***Field***, the second column enables you to select a field from any of the three objects you selected in the first tab.

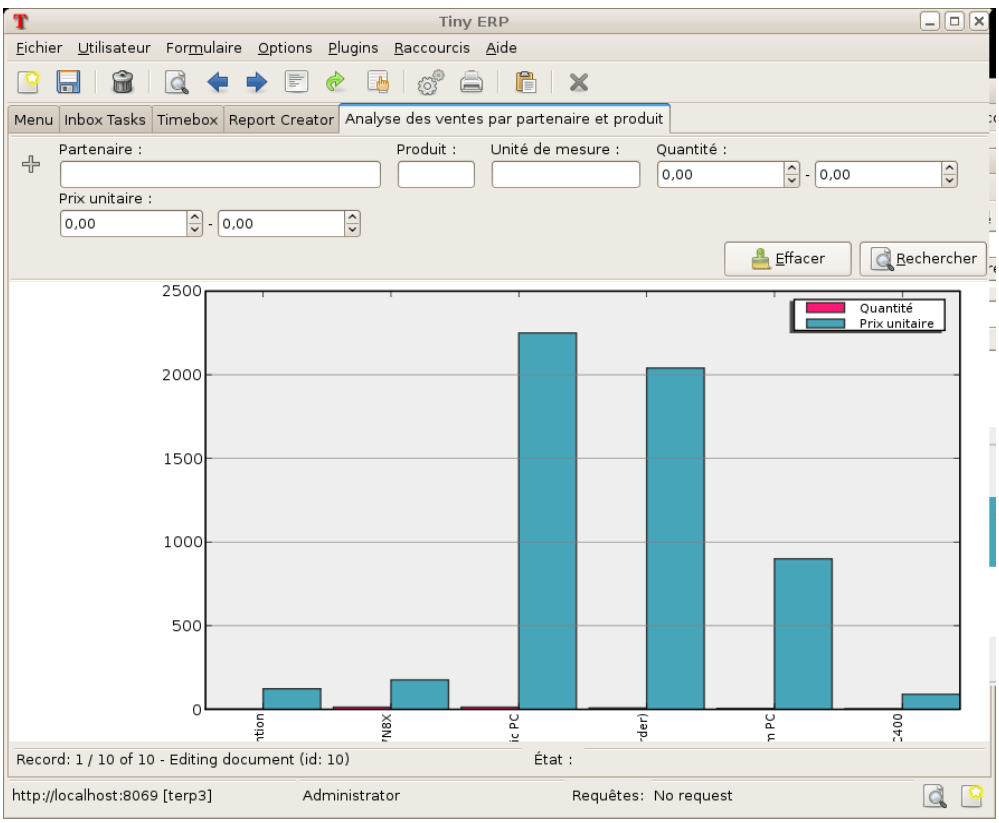
3 ***Grouping Method***, the third column lets you to determine the grouping operation that is to be applied to this field:
   - `Grouped`: enables you to group document entries with the same value in this field.
   - `Sum`: gives the sum of values in this field.
   - `Minimum`: gives the minimum of all the values that appear in this field.
   - `Maximum`: gives the maximum of all the values that appear in this field.
   - `Average`: gives the arithmetic average of all the values in this field.

4 ***Graph Mode***, the fourth column, determines if the field will appear in the graph view and, if so, on which axis (X or Y).

5 ***Calendar Mode***, the fifth column, enables you to specify if the field can be the basis of a calendar view.

You can now ***Save*** the report you defined. Click on the ***Open Report*** button to the right of the form to get the requested analysis.


Analyse des ventes par partenaire et produit - Iceweasel
File Edit View History Bookmarks ScrapBook Tools Help
http://localhost:8080/form/action?_terp_data=%7B%
Tiny ERP
Made by Tiny & Axelor
Bienvenue Administrator
Accueil Préférences A propos Déconnexion
Requêtes: Pas de requête
MENU PRINCIPAL
RACCOURCIS
Analyse des ventes par partenaire et produit
Recherche
Formulaire
Calendrier
Graphe
Recherche normale
Recherche avancée
Report Name :
Filtrer
Nouveau
<< Premier < Précédent [1 - 10 of 10] Suivant > Dernier >>
Partenaire
Produit
Unité de mesure
Quantité
Prix unitaire
Ecole de Commerce de Liege [PC3] Medium PC Unit 5.00 900.00
Ecole de Commerce de Liege [PC1] Basic PC Unit 2.00 450.00
Bank Wealthy and sons [PC2] Basic+ PC (assembly on order) Unit 1.00 540.00
Bank Wealthy and sons [MB1] Mainboard ASUStek A7N8X Unit 8.00 88.00
Agrolait [RAM512] DDR 512MB PC400 Unit 3.00 90.00
China Export [PC2] Basic+ PC (assembly on order) Unit 4.00 750.00
Agrolait Onsite Senior Intervention Unit 1.00 123.00
Agrolait [PC1] Basic PC Unit 11.00 1800.00
Agrolait [PC2] Basic+ PC (assembly on order) Unit 3.00 750.00
Agrolait [MB1] Mainboard ASUStek A7N8X Unit 5.00 88.00
Importer I Exporter
Done

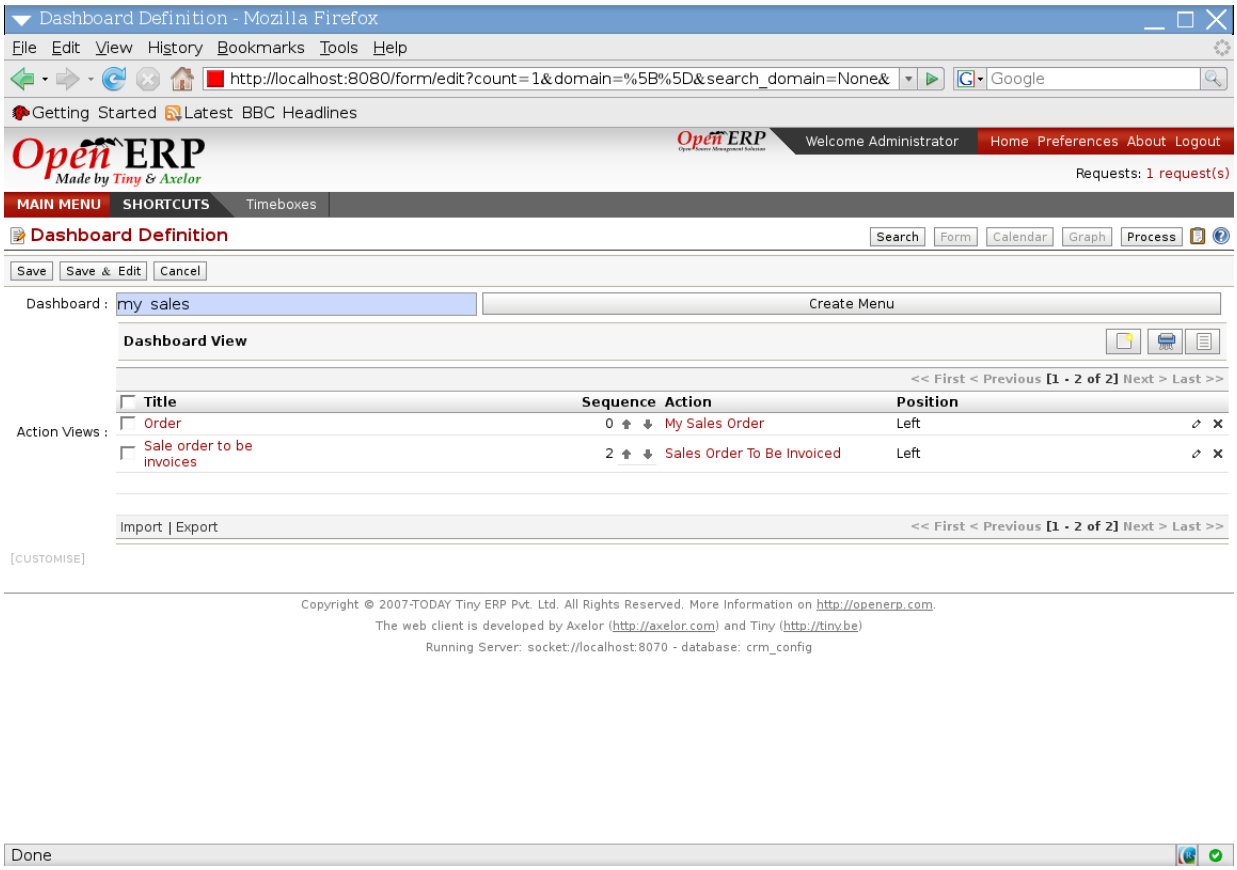


Analyzing sales by partner and by product in graph view

Personalizing the dashboards

Since version 4.3 of Open ERP you can similarly define measures to put on your own dashboards. To do this use the menu ***Dashboards > Configuration > Dashboard definition***.

A dashboard is a selection of reports previously defined in Open ERP. You can choose from hundreds of predefined reports and, for each report, indicate its position on the dashboard.


Dashboard Definition - Mozilla Firefox
File Edit View History Bookmarks Tools Help
http://localhost:8080/form/edit?count=1&domain=%5B%5D&search_domain=None&
Getting Started Latest BBC Headlines
Open ERP
Made by Tiny & Axelor
Welcome Administrator
Home Preferences About Logout
Requests: 1 request(s)
MAIN MENU SHORTCUTS Timeboxes
Dashboard Definition
Search Form Calendar Graph Process
Save Save & Edit Cancel
Dashboard : my sales
Create Menu
Dashboard View
<< First < Previous [1 - 2 of 2] Next > Last >>
Title Sequence Action Position
Action Views :
Order 0 My Sales Order Left
Sale order to be invoices 2 Sales Order To Be Invoiced Left
Import | Export
<< First < Previous [1 - 2 of 2] Next > Last >>
[CUSTOMISE]
Copyright © 2007-TODAY Tiny ERP Pvt. Ltd. All Rights Reserved. More Information on http://openerp.com.
The web client is developed by Axelor (http://axelor.com) and Tiny (http://tiny.be)
Running Server: socket://localhost:8070 - database: crm_config
Done

Definition of a new dashboard

Just like fields on reports, the ***Sequence*** field determines the order in which views appear in the dashboard.

Once the dashboard has been defined you can use the ***Create Menu*** button to create a menu entry for your dashboard anywhere in the menu system.

Managing document templates with OpenOffice.org

To personalize your printable documents in Open ERP, use the module `base_report_designer`, which the Tiny company published a little after the release of Open ERP version 4.2.0.

> **ADVANTAGE The OpenOffice.org Writer plug-in**
>
> You can create your own reports in just a few minutes using the OpenOffice.org Writer plug-in. This tool can give your team a big productivity improvement. Using it, you can create templates for all of your company's documents, reducing the work of creating and laying out data and customer documents.

The system is both simple and powerful, because it gives you the benefits of all of the layout facilities offered by OpenOffice.org Writer as well as all of the data and calculation provided by Open ERP. You could create or modify reports directly from OpenOffice.org and then use them in Open ERP.

> **TECHNIQUES Independence from OpenOffice.org**
>
> OpenOffice.org is only used to generate new document templates. The system administrator is the only person who has to install it.
>
> Once the document templates have been defined the users don't need it to carry out their normal work. They can use either Microsoft Office or OpenOffice.org as they choose.

The OpenOffice.org plug-in enables you to search for fields in Open ERP and integrate them into your document templates. You can use data loops in tables or sections, enabling you to attach several lines to an order, for example.

Once the new report has been defined it appears directly in the Open ERP client for the system users.

There are two modes of using reports:

- make the report produce a PDF document with data in it reflecting the selected record (for example, an invoice).
- make the report open a document for modification in OpenOffice.org, with data in it reflecting the selected record. This enables you to modify the document in OpenOffice.org before sending it to the customer (such as with a Quotation).

The personalized reports are stored in the Open ERP database and are accessible to everyone who has rights to use your database without any need for the installation of OpenOffice.org on their own computers. The document modifications are applied to a single database.

Installing the OpenOffice.org module

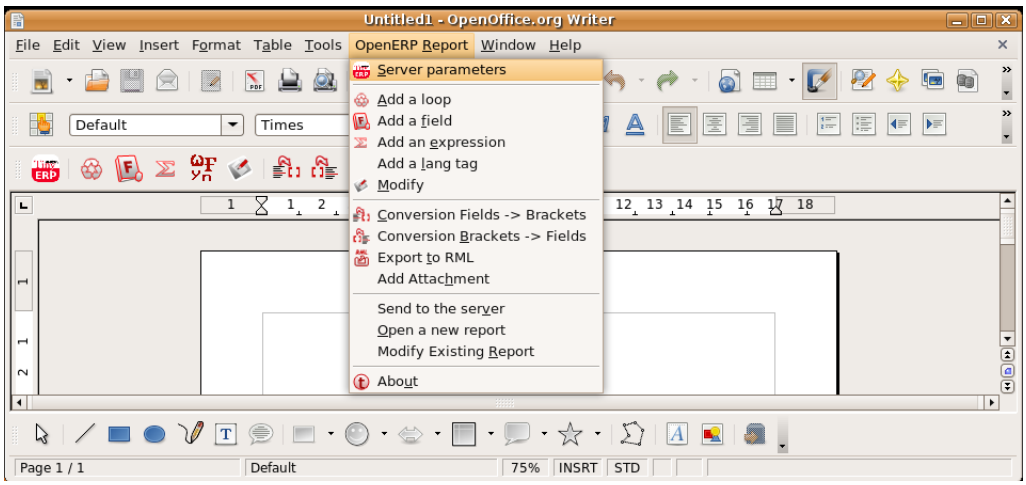
You should install two components before using the report editor:

- the module `base_report_designer` – first in your Open ERP installation if it's not already there, and then in the Open ERP database, you want to use it in.

- the OpenOffice.org Report Designer in the OpenOffice.org installation on your system administrator's computer.

You start by installing the module `base_report_designer` just like all the other Open ERP modules.

To install the OpenOffice.org extension, look for the file `openerpreport.zip` supplied with the ***Report Designer*** distribution. Check that OpenOffice.org is properly installed on your computer and that you have administration rights for installation.



Menu TinyReport in OpenOffice.org Writer

Start OpenOffice.org Writer, select ***Tools > Package Management...*** to open the Package Management dialog box and then search for the `openerpreport.zip` file to install it. Then close the application and restart Writer: a new menu appears in the top menu bar – ***Tiny Report*** or ***Open ERP Report***.

Connecting OpenOffice.org to Open ERP

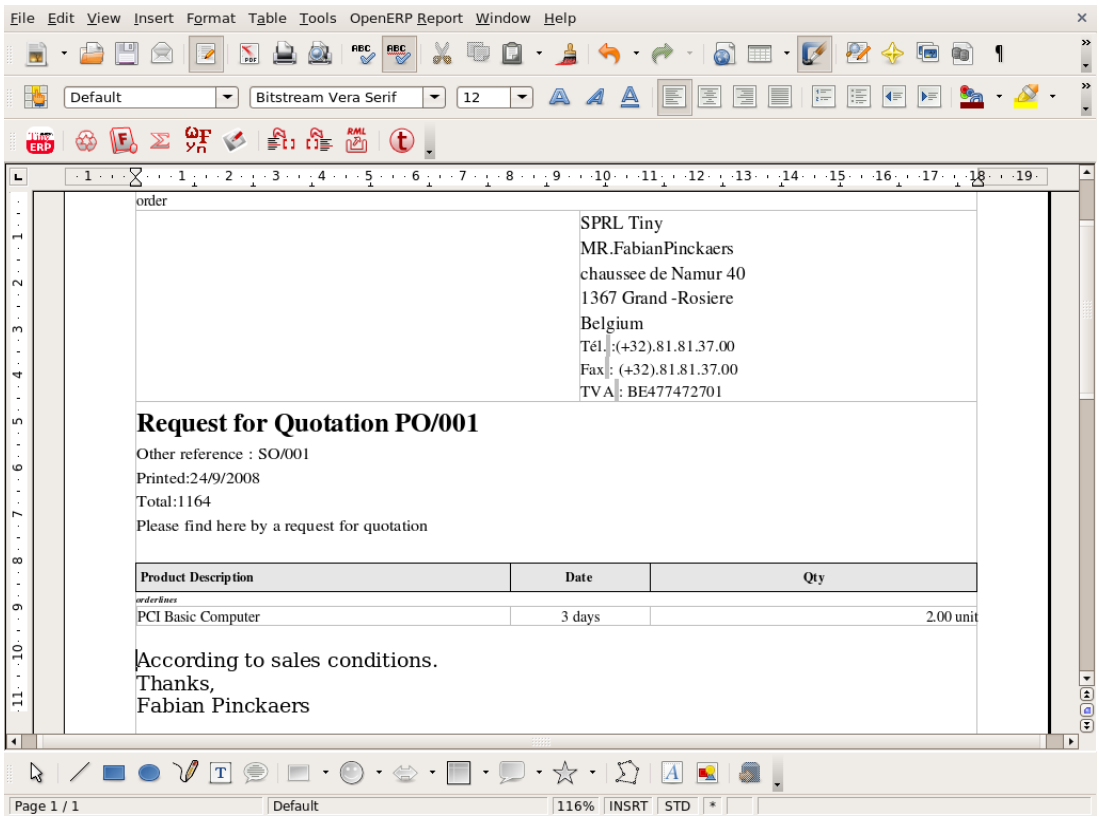
Select Tiny Report > Server parameters or Open ERP Report > Server parameters in the top menu of OpenOffice.org Writer. You can then enter your connection parameters to the Open ERP server. You must select a database `demo_min` in which you've already installed the module `sale`. A message appears if you've made a successful connection.

Modifying a report

The report editor lets you:

- modify existing reports which will then replace the originals in your Open ERP database,
- create new reports for the selected object.

To modify an existing report, select ***Tiny Report > Modify Existing Report***. Choose the report `Request for Quotation` in the ***Modify Existing Report*** dialog box and then click ***Save to Temp Directory***.



Modifying a document template

OpenOffice.org then opens the report in edit mode for you. You can modify it using the standard word processing functions of OpenOffice.org Writer.

The document is modified in its English version. It will be translated as usual by Open ERP's translation system when you use it through the client interface, if you've personalized your own setup to translate to another language for you. So you only need to modify the template once, even if your system uses other languages – but you'll need to add translations as described earlier in this chapter if you add fields or change the content of the existing ones.

> **ATTENTION Older reports**
>
> The older reports haven't all been converted into the new form supported by Open ERP. The data expressions in the old format are shown within double brackets and not in OpenOffice.org fields.
>
> You can transform an old report format to the new format from the OpenOffice.org menu ***Tiny Report > Convert Bracket–Fields***.

From the Tiny toolbar in OpenOffice.org it's possible to:

- connect to the Open ERP server: by supplying the connection parameters.

- add a loop: select a related field amongst the available fields from the proposed object, for example `Order lines`. When it's printed this loop will be run for each line of the order. The loop can be put into a table (the lines will then be repeated) or into an OpenOffice.org section.
- add a field: you can then go through the whole Open ERP database from the selected object and then a particular field.
- add an expression: enter an expression in the Python language to calculate values from any fields in the selected object.

> **Technique Python Expressions**
>
> Using the Expression button you can enter expressions in the Python language. These expressions can use all of the object's fields for their calculations.
>
> For example if you make a report on an order you can use the following expression:
>
> ```
> '%.2f' % (amount_total * 0.9,)
> ```
>
> In this example, `amount_total` is a field from the ***order*** object. The result will be 90% of the total of the order, formatted to two decimal places.

Save the modified report and send it to the server using the menu ***Tiny Report > Send to server***. A Send to server dialog box then appears. Don't modify the ***Technical Name*** if you want the modification to replace the original report. Change the form ***Report Name*** to `Sale Order Mod`, check the checkbox ***Corporate Header***, then click ***Send Report to Server***.

You can check the result in Open ERP using the menu ***Sales Management > Sales Orders > All Orders***.

Creating a new report

To create a new report, select ***Tiny Report > Open a new report*** in OpenOffice.org Writer, then choose a template to base the new report on. For example, choose `Sale Order` from the dialog box ***Open New Report*** then click ***Use Model in Report***.

The general template is made up of loops (such as the list of selected orders) and fields from the object, which can also be looped. Format them to your requirements then save the template.

The existing report templates make up a rich source of examples. You can start by adding the loops and several fields to create a minimal template.

When the report has been created, send it to the server by clicking ***Tiny Report > Send to server***, which brings up the ***Send to server*** dialog box. Enter the ***Technical Name*** of `sale.order`, to make it appear beside the other sales order reports. Rename the template as `Sale Order New` in ***Report Name***, check the checkbox ***Corporate Header*** and finally click ***Send Report to Server***.

To send it to the server, you can specify if you prefer Open ERP to produce a PDF when the user prints the document, or if Open ERP should open the document for editing in

OpenOffice.org Writer before printing. To do that choose `PDF` or `SXW` (a format of OpenOffice.org documents) in the field ***Select Report Type***.

Creating common headers for reports

When saving new reports and reports that you've modified, you're given the option to select a header. This header is a template that creates a standard page header and footer containing data that's defined in each database.

The header is available to all users of the Open ERP server. Its template can be found on the file system of the server in the directory `addons/custom` and is common to all the users of the server. Although reports attach information about the company that's printing them you can replace various names in the template with values from the database, but the layout of the page will stay common to all databases on the server.

If your company has its own server, or a hosted server, you can customize this template. To add the company's logo you must login to the Open ERP server as a user who's allowed to edit server files. Then go to the `addons/custom` directory, copy your logo across (in a standard graphical file format), then edit the file `corporate_rml_header.rml` in a text editor. Text in the form `<image file="corporate_logo.png" x="1cm" y="27.4cm" width="6cm"/>` should be put after the line `<!--logo-->` to pick up and display your logo on each page that uses the corporate header.

Importing and exporting data

Every form in Open ERP has a standard mechanism for importing data from a CSV file. That's the same format as used in the language translations.

> **NOTE Forms and Lists**
>
> You have access to the ***Import*** and ***Export*** functions in the web client on a single form view in read-only mode – you can't reach Import or Export in any other view or when the form is editable. If you're using the GTK client you can find the functions from the top menu ***Form > Import...*** and ***Form > Export...***

The CSV file format is text format compatible with most spreadsheet programs (such as OpenOffice Calc and Microsoft Excel) and is easily editable as a worksheet. The first line contains the name of the field in the form. All the subsequent lines are data, aligned in their respective columns.

The CSV format for complex database structures

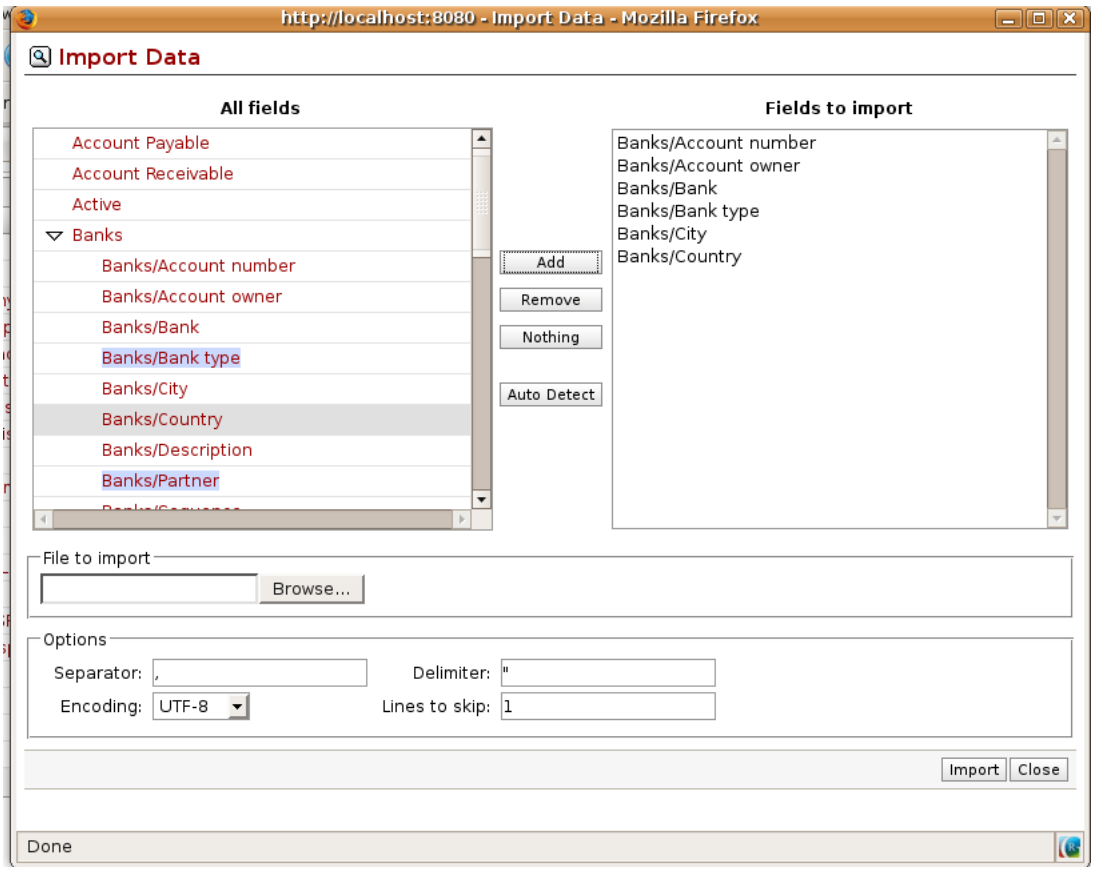
When you import data you have to overcome the problem of representing a database structure in `.csv` flat files.

To do this, two solutions are possible in Open ERP:

- importing a CSV file that's been structured in a particular way to enable you to load several different database tables from a single file (such as partners and partner contacts in one CSV file),

- importing several CSV files, each corresponding to a specific database table, that have explicit links between the tables.

Start by building the header of the CSV file. Open the import tool on the object that you're interested in and select the fields that you want to import into your Open ERP database. You must include every field that's colored in blue because those fields are required, and any other field that's important to you.



Selecting fields to import using a CSV file

Use the field names as the column names in the first line of your CSV file, applying one field per column. If your CSV file has these names in the first line then when you import your CSV file, Open ERP will automatically match the column name to the field name of the table. When you've created your CSV file you'll do that by clicking the ***Nothing*** button to clear the ***Fields to Import***, then select your CSV file by browsing for a ***File to import***, and then clicking the ***Auto Detect*** button.

To import CSV data that matches your database structure, you need to distinguish the following types of field in the Open ERP interface: ***many-to-many*** fields (between

multiple sources and destinations), ***many-to-one*** fields (from multiple sources to a single destination), and ***one-to-many*** fields (from a single origin to multiple destinations).

DEFINITION Foreground table

Each of these types is described in relation to a foreground table – the table whose entry form you're viewing and whose entries would be updated by a simple CSV file.

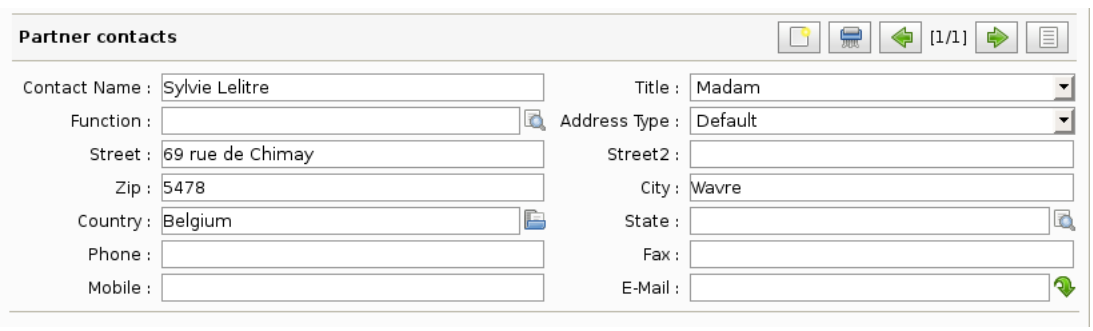
Just because one of these relation fields appears on the foreground table, does not mean that there is an inverse field on the related table – but there may be.

So there is no one-to-many field in the User form to reflect the many-to-one ***Salesman*** field in the Partner form, but there is a many-to-one ***Partner*** field in the ***Partner contact*** form to reflect the one-to-many ***Partner contact*** field in the ***Partner*** form.

View the screenshots below to note the differences.

A many-to-one field: a salesperson linked to a partner

A many-to-many field: partner categories



A one-to-many field: partner contacts

All of the other fields are coded in the CSV file as just one field in each column.

Many-to-one fields

Many-to-one fields represent a relationship between the foreground table and another table in the database where the foreground table has a single entry for the other table. Open ERP tries to link the new record in the foreground table with one of the entries in the other table by searching for and matching the ***Name*** or the ***Code*** with the value in the CSV file.

You can also work with identifiers rather than the names of resources. To do this you must import a first file (for example, Products) with a column named ***id*** in your CSV file that contains an identifier for each product. The identifier is a character string that is unique for each of the lines being imported and saved.

When you import other files which link to the first table, you can use the identifier in preference to the names (for example when you're saving inventory the uses the product names).

To do this, the title of the column in your CSV file must end in `:id` (for example `Product:id`).

> **ADVANTAGE Importing with identifiers**
>
> The management of free text identifiers enables you to considerably simplify the conversion of another database to Open ERP. You can just create an ***id*** column that contains the identifier used in the original database for each table that you're importing.
>
> For the other tables linked to this one you can just use the identifier relationship to the entry in the original table. You don't need a complex conversion then to create links to the original table.

Many-to-many fields

Many-to-many fields are handled just like many-to-one fields in trying to recreate the relationship between tables: either by searching for names or by using identifiers.

There are several possible values in a single many-to-many field. Therefore a partner can be given several associated categories. You must separate the different values with a comma.

One-to-many fields

One-to-many fields are a bit different. Take as an example the Partner Contacts field in the Partner form, which contains all of the linked contacts.

To import such a field you don't have to link to an existing entry in another table, but can instead create and link to several partner contacts using the same file. You can then specify several values for different fields linked to that object by the one-to-many field. Each field must be put in a column of the table, and the title of that column must be expressed in the form `field_one-to-many/field_linked-object`.

For example, to import partners with several contact for which you specify a name and a city, you would create the following CSV file:

Example of importing one-to-many fields

Name	Code	Address/Contact	Address/City
Tiny sprl	Tiny	Fabien Pinckaers	Grand-Rosière
		Cécile Debois	Namur
Axelor SARL	Axelor	Laith Jubair	Paris
Open-Net	OpenNet		

In this example, the ***Name*** and ***Code*** fields belong to the ***Partner*** table, and the ***Contact*** and ***City*** fields belong to the ***Contact*** linked to this partner.

Importing this file will give you three partners:

- Tiny sprl: with two contacts,
- Axelor SARL: with just one contact,
- Open-Net: with no contact..

> **Note Symmetry in relation fields**
>
> Depending on the structure of your data it can be easier to use the one-to-many form or the many-to-one form in relating two tables, so long as the relevant fields exist on both ends of the relationship.
>
> For example, you can:
>
> - import one partner with different contact in a single file (one-to-many),
> - import the partners first, and then contacts with the field linking to the partner in a many-to-one form).

Examples of CSV import files

To illustrate data importing, you can find two examples below. The first one is to import partner categories, and then to import some partners and their contacts along with links to the categories just created. Although you can create new contacts at the same time as creating partners (because you can do this for ***one-to-many*** relations), you can't create new categories this way (because they use ***many-to-many*** relations).

Partner categories

Start by creating partner categories in a CSV file:

1 Create the following table in your spreadsheet program:

Partner categories file: categories.csv

	Column A	Column B
Line 1	Category Name	Parent Category
Line 2	Quality	
Line 3	Gold	Quality

Line 4	Silver	Quality
Line 5	Bronze	Quality

On the first line, ***Category Name*** and ***Parent Category*** are the column titles that correspond to field names in the ***Partner category*** form.
Column A is for the different partner categories and ***Column B*** indicates if that category has a parent category. If ***Column B*** is blank then the category sits at the top level.

2 Save spreadsheet file in CSV format – separated by commas – and name the file `categories.csv`.
3 In Open ERP, select ***Partners > Configuration > Categories > Edit Categories***.
4 Click ***Import*** (to the bottom left of the list) to bring up the ***Import Data*** dialog box, in which you'll find the list of fields that can be imported.

New partners

Here's how to create new partners with several contacts, and how to link them to new categories:

1 Enter the table below into your spreadsheet program.

Partner data file: partners.csv

	Column A	Column B	Column C	Column D
Line 1	Name	Categories	Contacts/Name	Salesman
Line 2	Black Advertising	Silver, Gold	George Black	Administrator
Line 3			Jean Green	
Line 4	Tiny sprl		Fabien Pinckaers	Administrator

The second line corresponds to the creation of a new partner, with two existing categories, that has two contacts and is linked to a salesman.

2. Save the file using the name `partners.csv`.

3 In Open ERP, select ***Partners > Partners*** then import the file that you've just saved. You'll get a message confirming that you've imported and saved the data.

4 Verify that you've imported the data. A new partner should have appeared (`NoirAdvertising), with a salesman (Administrator), two contacts (George Black and Jean Green) and two categories (Silver and Gold).`

Exporting data

Open ERP's generic export mechanism lets you easily export any of your data to any location on your system. You're not restricted to what you can export, although you can restrict who can export that data using the rights management facilities discussed above.

You can use this to export your data into spreadsheets or into other systems such as specialist accounts packages. The export format is usually in the CSV format but you can also connect directly to Microsoft Excel using Microsoft's COM mechanism.

> **Technique Access to the database**
>
> Developers can also use other techniques to automatically access the Open ERP database. The two most useful are:
>
> - using the XML-RPC web service,
> - accessing the PostgreSQL database directly.

To illustrate the export of data, you can follow the steps below to export information on a specific partner using the web client:

1 In Open ERP, select ***Partners > Partners*** to show a list of partners. Search for a specific ***Name*** (here, `Black`) to display only the one line.

2 Click ***Export*** to bring up the ***Export Data*** dialog box.

3 All of the fields available are shown in the All fields section to the left – that corresponds to all of the fields visible on the form, including all of the fields that come from links to other tables in the underlying database.

4 Select the fields that interest you by adding them to the ***Fields to Export*** section using the ***Add*** button.

5 Click Export to export a CSV file or, if your client is on a Windows PC, you have an option of opening the data in a Microsoft Excel spreadsheet. The data is exported in a table similar to the one below.

Partner data in the exported file

	Column A	Column B	Column C	Column D
Line 1	Name	Categories/Category name	Contact	Salesman
Line 2	Black Advertising	Silver	George Black	Administrator
Line 3		Gold		
Line 4			Jean Green	

In the table above:

- ***Column A*** contains text data for the ***Name*** field in the ***Partners table***.
- ***Column B*** contains text data for the ***Category name*** field in the ***many-to-many*** related ***Partner Category*** table: if there are several categories they're listed in that column with all other lines remaining blank except for any other fields in the Partner Category table that may also have been selected.
- ***Column C*** contains text data for the ***Name*** field in the ***one-to-many*** related ***Partner contact*** table: if there are several partner contacts then they're listed in that column with all other lines remaining blank except for any other fields in the partner contact tables that may also have been selected.
- ***Column D*** contains text data for the Salesman, which is the ***Name*** field in the ***many-to-one*** related ***User*** table. It is listed only on the same line as the Partner itself.

ADVICE **Module Recorder**

If you want to enter data into Open ERP manually, you should use the Module Recorder, described in the first section of this chapter.

By doing that you'll be generated a module that can easily be reused in different databases. Then if there are problems with a database you'll be able to reinstall the data module you generated with all of the entries and modifications you made for this system.

14

Implementation Methodology

14

Implementation Methodology

Summary

- Planning Open ERP's implementation
- Deployment options
- User training
- Maintenance and support

Keywords

- implementation
- integration
- deployment
- SaaS
- training
- migration

You may have mastered the technical aspects of administering and using your enterprise management system, but you still have a great deal of work to do integrating Open ERP into your company. This work is more business-related and social in nature than technical. The Open ERP implementation process encompasses several different phases: evaluation, planning, configuration, data migration, deployment, and user training, and impacts both support and maintenance

The management of ERP projects, and IT project management in general, are the subject of very many other books that you might want to investigate for yourself. The elements of the methodology presented here aren't intended to be an exhaustive review, just a brief overview of the different phases necessary to implement Open ERP in your company

DEFINITION Implementation

Implementation encompasses the whole process of integrating and deploying Open ERP, including evaluating it, establishing specifications, planning the deployment, the configuration of the software, loading data, installation and training the users. It doesn't really extend to software customization, nor support and maintenance.

Requirements Analysis and Planning

Requirements analysis and planning are the keys to the success of an implementation. At this stage you should set up a management team to define the costs and benefits of the project, select a project team, and set out the detailed stages that will have to be carried out.

Open ERP is so easy to start using that it's not always obvious, particularly to IT staff, that a clear requirements plan is necessary for implementing the system successfully. The difficulty isn't particularly in installing the software nor in configuring it, but rather more about:

- knowing what to configure,
- deciding if you should adapt the software or perhaps change your method of working, for some of your specialized processes,
- forming teams that can specify and work on some of the changes,
- ensuring that your users are committed to the change.

ERP system implementation is a project carried out using information technology but it's a business project rather than an IT project in itself. The challenge of this type of project is in changing the behaviour of those involved at all levels of the enterprise.

People in the IT department will certainly be an integral part of the project but they should be managed by someone in a senior position who both understands the business impact across the organization and has experience of technical projects. Ideally the project manager should know the company well, both its specific quirks and its different standard cross-company processes.

If the enterprise doesn't have its own IT group, you're probably better off opting for an SaaS offer. This means that you subcontract all the difficult technology, from the installation of the server to its maintenance, all the while being assured of the installation of a robust architecture with its redundancy, backed-up servers, and separation of authentication and data.

Reminder The SaaS offer

SaaS (Software as a Service) offers are hosted by a supplier in the form of a monthly subscription which includes all the IT material (servers), system maintenance, hosting and support.

You can obtain a month's free trial from http://ondemand.openerp.com/, which lets you start rapidly without any integration cost or material to buy, or you can ask one of Tiny's partners for access to this or their own services.

This service can be particularly useful to small companies who want to grow their integrated management system rapidly, at low cost, based on the same robust general system architecture as that used by large banks.

Planning methods

Planning methods vary in their degree of complexity, formality and level of automation. It's not the intention of this chapter to steer you towards one method or the other.

Open ERP's menus are organized to lead you through an implementation in a sensible order, so that information that has to be entered first is encountered first in the menu system. Forms are also organized so that if you enter data in the natural order you'll get later fields completed automatically by the earlier ones where possible. And demonstration data illustrates how Open ERP's functional areas are linked from one to the other

The menus themselves hint at several helpful implementation suggestions, for example the submenus of ***Administration > Configuration*** are useful for the configuration of the software. New functions such as the Module Recorder enable you to significantly accelerate the configuration of data.

External modules, such as the Implementation Planner module `implem` which helps you develop high level implementation plans are also being produced by third-party developers. These plans, designed for managing or investigating Open ERP, detail the software structure and the different steps required by your implementation.

Deployment

As you've seen the complete architecture of Open ERP includes the following elements:

- a database server,
- an Open ERP application server,
- an eTiny web server,
- several clients that access the Open ERP server: they can either be web clients if the eTiny web server is installed, or GTK clients.

Definition Deployment

Deployment is the process of putting a Open ERP database into a production-ready state, where it can be used by everyone in your business for their daily work. You'd usually configure Open ERP and

load data into it on one development system, train staff on that or another training system and deploy it onto a production system that has better protection against failure, better security and more performance.

Deployment Options

To deploy Open ERP in your company, several options are available to you:

- an SaaS (Software as a Service) or on Demand offer which includes the equipment, the hosting, the maintenance and the support on a system configured to your needs in advance,
- an internal installation, that you manage yourselves or have managed by an IT services company such as an Open ERP partner,
- hosting by a server supplier on which Open ERP is installed, which enables you to proceed to add adaptations on your server.

The first two approaches are the most commonly used.

The SaaS (Software as a Service) offer

SaaS is a complete package hosted at a supplier, that includes the following services: server hardware, hosting of the generic solution, installation and initial configuration, redundancy of the architecture, backups, system maintenance and support.

It's provided in the form of a monthly subscription with a fixed price per user. You can find the detail of available SaaS packages at http://ondemand.openerp.com/.

SaaS packages don't permit you to develop specific modules to your needs. On the contrary, they offer a service at a set price based on standard software modules that contain few migration risks. SaaS suppliers are limited generally to the modules certified and validated by the original author and project manager, Tiny.

Here are the main advantages of an Open ERP SaaS solution:

- an unbeatable return on investment (cost of implementation: 0, cost of licenses: 0),
- costs that are controlled and without surprises (the offer includes maintenance, frequent migrations and support),
- a turnkey solution, installed in less than twenty-four hours,
- packages adapted and preconfigured for different sectors of activity,
- a very robust architecture guaranteed to have constant and permanent access, reachable from anywhere.

So this servr is recommended for small companies with fewer than about fifteen employees.

Hosting by a supplier

At first sight a hosted Open ERP system appears similar to SaaS: it provides Open ERP from a remote installation through a web browser. But in general the similarities stop there.

To compare it with an SaaS package you should check if the hosting offer properly includes the following elements:

- server hardware,
- hosting,
- maintenance,
- future migrations,
- backups,
- server redundancy,
- telephone and email support,
- frequent updates to the modules.

Also get yourself up to speed on the following points:

- the version of Open ERP proposed,
- the costs of implementation (configuration, data loading, training),
- the cost of personalization (if it's proposed),
- the technology and the procedure used for securing your database,
- the technology and the procedure for preventing system faults,
- the technology and the procedure for restoring a faulty system,
- limitations on the number of users, the number of simultaneous users, and the size of the database,
- the level of support and its costs,
- the procedure used to update Open ERP (to fault-fixed versions)
- the procedure adopted for Open ERP upgrades (to versions that have both fault fixes and new functionality).

Calling such suppliers can be a good solution if you are willing to entrust all the technical specifications for the functioning of Open ERP to them, especially if you need to use customized or extension modules that aren't in the stable version released by Tiny.

Internal Installation

Large and medium-large companies typically install Open ERP using their own internal company resources. They usually prefer to have their own IT service in charge of maintenance.

Such companies can do the implementation work themselves internally, or turn to an Open ERP partner who will do the ERP implementation work or assist them with it. Generally companies prefer to adopt an intermediate solution which consists of:

1. Turn the initial implementation over to a partner to limit the risks and delays of integration. That enables them to be managed by experts and to obtain a high quality configuration.
2. Take charge of the simple needs for themselves once the software has been implemented. It's quite a lot more convenient for them to be able to modify

the database tables, forms, templates and workflows internally than routinely depend on a supplier.

An internal installation will probably prove more costly than an SaaS package or hosted service. Even if you put yourself in charge of it all, you'll take quite a bit of time learning how to manage the implementation unless the team already has experience of Open ERP. This represents a significant risk.

However, an internal implementation can be particularly interesting where:

- you want to keep your data within your company,
- you think you want to modify your software,
- you want a specific package of modules,
- you'd like a very fast response time,
- you want the software to be available even if your Internet connection goes down.

These factors, and access to the resources needed to handle an implementation and the subsequent maintenance, are the reasons that large and medium-large companies usually do it for themselves, at least partly.

Deployment Procedure

The deployment of a version of Open ERP is quite simple when your server has been configured in your production environment. The security of the data will then be a key element.

When you've installed the server you should create at least two databases:

- a test or development database, in which the users can test the system and familiarize themselves with it,
- a production database which will be the one used by the company in daily use.

> **NOTE Version numbering**
>
> Open ERP uses a version numbering model that comprises 3 numbers A.B.C (for example 4.2.2) where changes in the number A signify a major functional change, changes to number B signify an update that includes a batch of fault fixes and some new functionality, and the number C generally refers to some limited updates or fixes to the existing functionality.
>
> The number B is notable: if it's an odd number, (for example 4.3.0) it's for a development version which isn't designed for a production environment. The even numbers are for stable versions.

If you have prepared a data module for Open ERP (that is a module that consists just of data, not altered functionality), you should test it in your development version and check that it doesn't require any more manual adjustments. If the import runs correctly, it shows that you're ready to load your data in the production database.

You can use the Open ERP database backup procedure at different stages of configuration (see Chapter 1). Then if you've made a false step that you can't recover from you can always return to a prior state.

Since your data describes much of your company's value, take particular care both when you need to transfer it (in backups and across your network) and when you're managing the super-administrator password. Make sure that the connection between a PC client and the two servers is correctly secured. You can configure Open ERP to use the HTTPS protocol, which provides security for data transfer

> **DEFINITION HTTPS**
>
> The HTTPS protocol (Secured Hyper Text Transfer Protocol) is the standard HTTP protocol secured by using the SSL (Secure Socket Layer) or TLS (Transport Layer Security) security protocols. It allows a user to verify her identify to the site to which she wants access, using a certificate of authentication. It also guarantees the integrity and confidentiality of the data sent between the user and the server. It can, optionally, provide highly secure client authentication by using a numbered certificate.
>
> The default HTTPS port is 443.

You could also use the PostgreSQL database directly to backup and restore data on the server, depending on access rights and the availability of passwords for the serve.

User training

Two types of training are provided by the Tiny company and its partners:

- Technical training in Open ERP: the objective of this intensive training is to enable you to develop your own modules by modifying and adapting the existing ones. It covers the creation of new objects, menus, reports and workflows, and also of interfaces with external software. It lasts for five days and is designed for IT people
- User training: this enables you to be productive as rapidly as possible in the use of Open ERP. All of the modules there are detailed with concrete examples and different exercises. For the sake of realism the training uses data for a fictitious company. This training also lasts for five days. It is designed for those responsible for an ERP project, who will then be capable of training employees internally.

Tiny's training calendar is available on the official Open ERP site http://openerp.com/ by clicking the menu ***Services > Training***. The training is delivered in either French or English depending on the course.

Both Tiny, the creators of Open ERP, and the Open ERP partners can also provide customized training. This, although more expensive, is focused on your own needs.

Your training needs depend on the type of deployment you've chosen. If you have opted for an SaaS development, technical training isn't very useful.

In summary, you should arrange both user training and self-paced training (perhaps based on this book) if you can. Technical training is strongly advised if you see

yourselves developing your own modules. Although it's not obligatory it gives you quite a time advantage in any serious Open ERP engagement.

Support and maintenance

It's when you actually use your ERP that you will obtain value from your investment. For that reason maintenance and support are critical for your long term success.

- Support aims to ensure that end users get the maximum productivity from their use of Open ERP by responding to their questions on the use of the system. Support can be technical or functional.
- Maintenance aims to ensure that the system itself continues to function as required. It includes system upgrades, which give you access to the latest functionality available.

Some partners offer preventative maintenance. This makes sure that all the specific developments for your system are revised and tested for each new version so that they remain compatible with the base Open ERP.

If you haven't anticipated your needs with a preventive maintenance contract, the costs of migration after a few years can become significant. If special modules that you developed have been allowed to become too old you may eventually need a new development to your specifications.

Updates and Upgrades

There are four sources of code change for Open ERP:

- patches supplied by Tiny to correct faults: after validation these patches won't cause any secondary effects,
- minor updates, which gather the fault corrections together in one package, and are generally announced with a modification of the version number, such as from 4.2.0 to 4.2.1,
- upgrades, which bundle both the fault corrections and the improvements to the functionality in a major release such as from 4.0.3 to 4.2.0.
- new functions generally released in the form of new modules.

You should establish a procedure with your supplier to define how to respond to changes in the Open ERP code.

For simple updates your maintenance team will evaluate the patches to determine if they are beneficial to the use of your Open ERP. These patches should be tested on an offline instance of Open ERP before being installed in your live production version.

The maintenance team would also take charge of regular updates to the software.

Patches and updates can only be installed if you have the necessary access to the Open ERP server. You must first install the patch or update and then restart the server using the command line: `–update=all`.

Once Tiny has released a new upgraded version your response should be a cautious one. If you're perfectly satisfied with the existing system it would be best to not touch

the new version. If you want to have access to the new functionality supplied by an upgraded version, you have a delicate operation to carry out. Most upgrades require your data to be migrated because the databases before and after the upgrade can be a little different.

Version Migration

Open ERP has a system to manage migrations automatically. To update specific modules, or the whole database, you only need to start the server with the argument: `–update=NAME_OF_MODULE` or `–update=all`..

New stable versions of Open ERP sometimes require operations that aren't provided in the automated migration. Tiny, the creator and maintainer of Open ERP, has a policy of supporting migration from all official stable releases to the latest. Scripts are provided for each new release of a stable version. These carry out the upgrade from the previous major version to the new major version.

The managers responsible for the migration between two versions of Open ERP will find the documentation and the necessary scripts in the directory `doc/migrate` of the Open ERP server.

The procedure for migrating runs like this:

1 Make a backup of the database from the old version of Open ERP
2 Stop the server running the old version
3 Start the script called `pre.py` for the versions you're moving between.
4 Start the new version of the server using the option `–update=all`.
5 Stop the server running the new version.
6 Start the script called post.py for the versions you're moving between.
7 Start the new version of the server and test it.

A migration is never an easy process. It may be that your system doesn't function as it did before or that something requires new developments in the functionality of the modules that have already been installed. So you should only move to a new version if you have a real need and should engage a competent partner to help if the version that you use differs greatly from the basic version of Open ERP.

Similarly you should take care that this migration does not correct any setting that was done incorrectly. It's can be the case, for example, that the main menu structure has been modified without recording it. You may find that you're making the wrong assumptions about that structure when loading data in that was recorded with the Module Recorder.

Conclusion

Conclusion

Open ERP has become established as the main free market-changing alternative for enterprise management systems in amongst software from giants such as SAP, Oracle and Microsoft, and from the small software developers in their own niches.

Until now only two main alternatives existed for systems that manage a company's information: install a proprietary ERP system, complete but usually overweight, inflexible, and expensive; or develop a solution internally, adapted to current needs but often expensive to develop, not integrated, and incomplete.

With its free business model, Open ERP combines the advantages of a complete ERP system with the flexibility of an in-house solution. The open source code, the project's general flexibility, and its hundreds of modules let you construct a solution from a selection of the modules already available and you can then freely update it as your needs evolve.

The results will be at the top end of what you might expect from any ERP system, let alone an Open Source system. The considerable gains in productivity, efficiency and visibility become apparent only a few months after implementation. And you can gain from increased operational quality even if you reduce your human resourcing intensity. Because there are fewer repetitive tasks for your staff to do, they can concentrate on higher added-value work. We frequently receive the gratitude of senior management who get better results from their business because they've adopted Open ERP.

You aren't alone

Many resources are at hand to accompany you on your Open ERP adventure.

Bypass the technical difficulties by using the SaaS offer

For a quick low-cost start, you can make use of a month's comprehensive free trial of Tiny's Open ERP SaaS package found at http://saas.tinyerp.com. Using this you sidestep

any technical difficulties and get a comprehensive set of system administration services, server hosting, configuration to your environment, maintenance, support and initial training.

An SaaS package is suited to the needs of small enterprises that don't have very specific needs, and where the initial cost and the delay of implementation are critical factors.

To meet its objectives of minimal cost, the SaaS package aims for highly automated standardized data migrations, minimal support load by training customers well, and a strict limit to the number of modules offered. So you can't use your own modules, and are limited to the standard modules that are included in various package levels.

Consult the available resources

Larger companies often prefer a more classic implementation path. Even though Open ERP's simplicity makes this task easier than with other systems, you can't hide the fact that a project implementation is complex and introduces big changes to a company.

So you can turn towards some of the different actors in this free software ecosystem to help you out:

- the community of users and developers,
- Tiny's Open ERP partner companies,
- the main project developers, Tiny, themselves.

The community of users and developers

The community, supported by Tiny, hosts a set of communication tools which can help you in your Open ERP investigation.

The forum

http://openerp.org/forum

the forum enables you to discuss issues with other Open ERP users. It's very active and you have a good chance of receiving some form of response to your questions within twenty-four hours or so.

The wiki

http://openerp.org/wiki

The wiki contains a large amount of information about the software, some current and some historical. You'll find the documentation necessary for installation there, as well as user documentation, and a technical manual for developing your own modules.

Database of Open ERP modules

http://openerp.org/component/option,com_mtree/Itemid,111/

A database of all the modules available for use gives you free access to most of the known Open ERP extensions.

Tiny Forge

http://tinyforge.org

You can investigate the collaborative development center Tiny Forge where Open ERP modules are developed.

Launchpad

https://code.launchpad.net/~openerp/

The most recent communication tool is the launchpad system, which now hosts all of Open ERP's source code (using the ***bzr*** source code control system) and is used for reporting faults. It's become the central location for Open ERP technology.

Open ERP partners

If you need contract-backed guarantees for implementing and maintaining Open ERP you can contact an official Open ERP partner. Open ERP partners offer various services such as user training, prototype installations, and change management services. The complete list of partners by country and by type can be found on the official Open ERP site: http://tinyerp.com/partner.html.

The main developer, Tiny

Finally you can call the main project developers, Tiny, who can help you in your Open ERP project. Tiny offers various services such as free demonstration days for the software, user training and technical training, support contracts, maintenance contracts and developments as required. Depending on the demand, they can also put you in contact with partners most aligned to your requirements.

The mailing list

To keep up to date with all Open ERP's news you can subscribe to the mailing list using http://tiny.be/mailman/listinfo/tinyerp-announce.

To conclude, never forget that Open ERP has more than two hundred modules available and that many of them haven't been covered in this book. So if you haven't found a solution to your problems here, look amongst those modules, talk to other Open ERP users on the forum, and don't hesitate to contact a partner.

Wishing you the greatest of success in your ERP project,

Geoff Gardiner and Fabien Pinckaers.

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